THE MARINE RECORD

ESTABLISHED 1878

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THE GULF COAST CANAL.

The proposed gulf coast canal from Galveston to Brownsville, is assuming shape. G. H. Wreford, recently from Dallas, and Charles L. Newcomb, of Hagerstown, Ind., have a contract dated February 27, bearing the signatures of Chas. L. Newcomb, president, and George H. Wreford, secretary of the Gulf Coast Canal and Navigation Co., and Charles H. Hubbell and Timothy E. Tarsney, under the terms of which the two last named gentlemen contract to open a canal, to a width of 75 feet at the water line, depth of 8 feet average low tide, between Galveston and Corpus Christi, for which work the Gulf Coast Canal and Navigation Co. agrees to pay them $1,100,000. The contract is based on the condition that right of way and bonus will be given and work commence within four months after Capt. Hubble and his associate have received notice that the right of way and bonds have been secured. It is to be completed within three years from the date work begins.

Detroit capitalists are back of the enterprise and they have ample funds to push it through. The present contract calls for a canal to Corpus Christi only, but with the work once under way the projectors propose to award without delay a contract for the remainder of the work to Brownsville.

UTILIZATION OF IRON ORE DUST.

It is stated that an addition will soon be built to the Illinois Steel Co's plant at Bay View, Wis., for the utilization of the iron ore dust, or fine ore which up to the present, in the process of blasting and smelting the iron ore, has gone to waste. The process of utilizing this ore has been invented by M. Nird linger, of Milwaukee, who is the president of the Acme Mineral Nugget Company, which was recently incorporated at Camden, N. J., and in which several Philadelphia and Cleveland parties are interested. The company furnishes the machinery for the process and sells to blast furnaces the right to use the process. The daily waste in ore at the different works of the Illinois Steel Company is from 350 to 450 tons, and by using the process for collecting and compressing the fine ore invented by Mr. Nirdlinger the company will avail itself of every pound of this waste ore, which will constitute a considerable saving.

NOTICE TO MARINERS.

LOCATION OF NANTICOKE SHOAL.

To the Editor of The Marine Record:

I am indebted to Carter Bros., tug owners of Port Colborne, for the following information, and I now forward to you the most important part of their letter that my fellow captains may derive the benefits:

Capt. H. Zealand, Port Huron, Mich:

DEAR SIR: The shoal that Captain —— has reference to is one that is not marked on any of the charts, but will be on the new Canadian, as the Canadian surveyors located it last summer. We have known about it since 1889. In August of that year Capt. Frank Carter struck it (the Nanticoke Shoal) with the tug Rooth, going from Port Colborne to Port Dover for a raft, and he marked it on a chart. The schooner Erie Stewart was on there for a few hours about eight or nine years ago, and on October 6, 1895, the schooner George W. Davis ran on it and remained on until she washed off on October 28, and drifted down the lake about four miles, when she sank in a little less than six fathoms below Peacock Point. The shoal is about 4½ miles S. W. from Peacock Point, and a little over 13 miles nearly north of Long Point. It had about 9½ feet of water in the shoalest place, and covers about ¾ of an acre or less; it is rocks, large gravel and clay. The Davis was out nearly 3 feet forward and there was 14 feet of water at her stern. * * * I am yours truly,

DE. W. CARTER.

GREATEST SPEED YET OBTAINED.

THE Desperate, torpedo-boat destroyer, designed and built for the British Navy by J. Thornycroft & Co., had a preliminary trial on March 17, obtaining a mean speed of four runs on a measured mile of 31.035 knots, or 35¾ statute miles. The speed was taken by British Admiralty officials, and is the highest on record. The Desperate is the first of the new 30-knot torpedo catchers. The Thornycrofts are building three others on the same general design, the displacement being 272 tons and the indicated horse-power 5,400.

QUARTERLY SHIPBUILDING RETURNS.

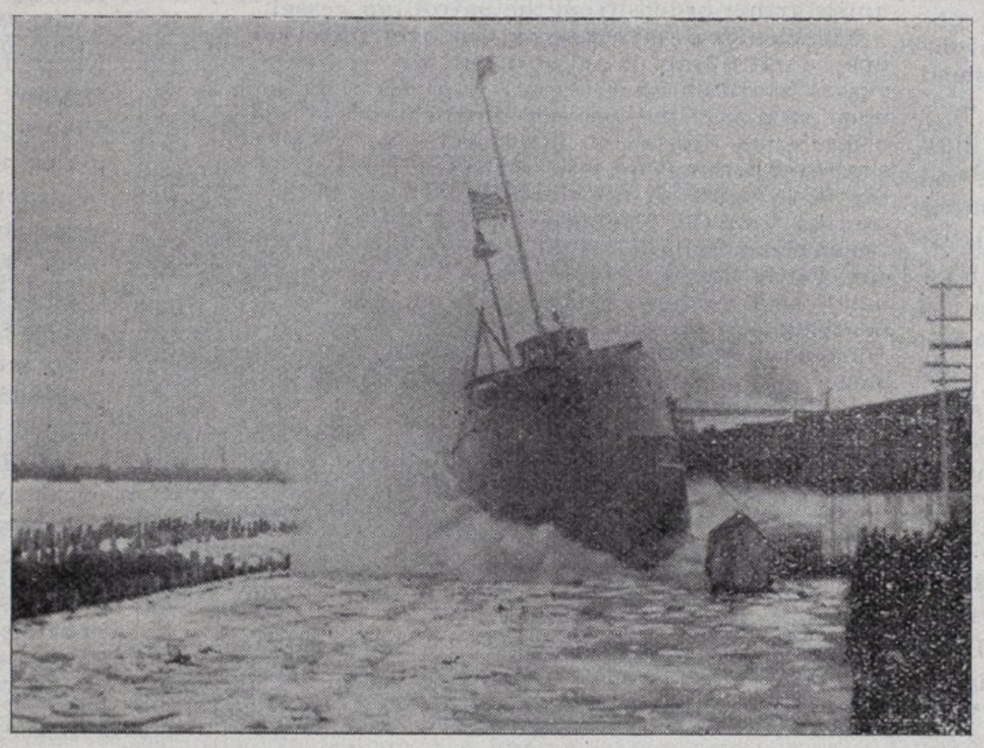
The following table shows the number and tonnage of sailing and steam vessels built in the United States and officially numbered, as shown by the records of the Bureau of Navigation, Hon. Eugene T. Chamberlain, Commissioner, during the quarter ended March 31, 1896:

	WOOD.				STEEL.	
	SAIL.		STEAM.		STEAM.	
	No.	Gross	No.	Gross.	No.	Gross.
Atlantic and Gulf....	43	9,089 32	18	1,821.24	6	1,585,10
Pacific.....	17	561.88	5	1,019.49	1	3,760.29
Great Lakes.....	.....	.....	1	15 65	2	7,004 12
Western Rivers.....	.....	.....	26	3,312,59	.....	.....
Total.....	65	9,651.20	50	6,168.97	9	12.349.51

	No.	Gross Tons.	No.	Gross Tons.
Total sail.....	65	9,651.20	7	9,609.69
Total steam.....	59	16,518,48	55	19,726 04
Grand total.....	124	28,169.68	128	29 335 73

It will be noticed that in this quarter as in last, the Great Lakes region does not make much of a showing. Very few admeasurements are made on the Great Lakes during the winter, but the next quarter will undoubtedly place the lake region far in the lead.

The launch of the rebuilt dredge Continental, at Lorain, and the consequent whistling of salutes, brought out the city fire department in full force last Saturday.



LAUNCH OF STEAMER L. C WALDO.

Which occurred at F. W. Wheeler & Co.'s shipyard, West Bay City, Saturday, March 7.

NOTES.

THE preliminary trial of the battleship Massachusetts has been fixed by the Navy Department for April 18.

A. J. DREXEL'S new steam yacht Margarite, now building on the Clyde, will be launched about the middle of April.

THE newly launched battleship Iowa has been docked at the League Island Navy yard for final inspection and painting.

AN official report of the trial of the U. S. Cruiser Raleigh shows the vessel made an average of 18.64 knots an hour for the four hours' run, despite unfavorable wind and weather, which caused the Raleigh to roll from 10 to 15 degrees. During the first hour the Raleigh developed a speed of 19.20 knots, increasing it to 19.44 in second hour. In the third hour the speed was 18.15, and in the fourth and last 17.88.

IT has been practically settled by the Navy Department to assign Lieut. Comdr. Richard Wainright to duty as chief naval intelligence officer. Lieut. Comdr. Wainright will succeed Lieut. Comdr. Singer, who has been ordered to duty as executive of the Terror when that vessel is placed in commission on the 14th inst. The Department intends to make the Naval Intelligence Office one for an officer of higher rank than has heretofore been the case.

HARBORMASTER CLIFT'S report of the ocean commerce at the port of Tacoma March, 1896, is as follows: Imports—Oriental merchandise, $100,000. Exports—227,823 bushels wheat to Europe, $137,446; 11,478 barrels flour to China, $34,434; 6,646,114 feet lumber to Australia and Peru, $47,590; 27,600 tons coal, $72,800; merchandise to British Columbia, $23,212,97; merchandise to China and Japan, $113,241; total, $428,728.97. Inward registered tonnage, 41,267; outward registered tonnage, 41,919; inward cargo tonnage, 3,280; outward cargo tonnage, 46,486. Deep sea arrivals, 36; departures, 31.

THE success of experiments conducted by the Light house Board for establishing telephonic communication between lightships and the shore has attracted the attention of European governments, which have failed to solve the problem after years of trial, but which now propose to take prompt advantage of the achievements of American ingenuity. The Treasury Department, upon application, has already furnished copies of the report to several foreign ministers in Washington, and the system perfected at Sandy Hook will soon be in operation abroad, while, through lack of funds and the failure of Congress to make appropriation for the purpose, the United States service is prevented from enjoying the benefits of its own enterprise.

THE RECORD has received many compliments on its valuable statistical supplement sent out last week, relating to the records of lake levels for sixty years, which we are glad to turn over to Lieut. Col. G. J. Lydecker, U. S. A., and his assistants, to whom the credit properly belongs. It has been said in some quarters that the diagram is too complicated to be easily understood. We think, however, a more careful scrutiny of the diagram will show how simple it really is. It contains a mass of information which presents the situation as precisely, and convey a much clearer idea than could be obtained from tables of statistics four times its size. We have a limited number of copies of this supplement, which we will be glad to mail to any address on receipt of a 2c stamp.

RULES FOR NAVIGATING ST. MARY'S RIVER.

The following rules are those which have been recommended to the Treasury Department by the Ship Masters' Association and others who were requested to formulate regulations for the navigation of the St. Mary's River, under the survellance of a revenue patrol boat, in accordance with the suggestions made at the last annual meeting of the Lake Carriers' Association, which was followed up with personal work on the part of those interested in the most careful navigetion of the lakes. Capts. W. S. Mack, Edward Morton, A. J. Greenlee, and C. B. Mallory made a personal visit to Washington this week, and were given assurances that the regulations which they proposed would be adopted by the Revenue Service, which has charge of the matter.

SPEED LIMIT, BOUND UP.

Rule 1.—Steamers passing through the dredged channel from the can buoy on Mud Lake to the float lights at the north end of the 20-foot channel going into Hay Lake shall not run at a speed faster than seven miles an hour, (passing the land), and upon the approach of another steamer, from an opposite direction, it shall be the duty of each steamer to check when at a distance of half a mile from each other to a slower speed, till each has passed the other.

From the crib lights at the south end of the 20-foot channel through the Little Rapids cut at the north end of Hay Lake, to the government pier at Sault Ste. Marie, a speed of seven miles an hour only shall be maintained, except that as before, when meeting another steamer coming from the opposite direction, each shall check when at a distance of half a mile from the other, until both have passed each other.

Exception is also made for the provision hereinafter made, about slow-going craft in what is known as Little Mud Lake, and from the can buoy to Everens' Point. The speed of seven miles an hour shall be the limit of speed from the upper end of St. Mary's Falls Canal piers to a point abreast of Big Point, one mile west of Vidal shoal buoy.

SPEED LIMIT, BOUND DOWN.

Rule 2. From Big Point, one mile west of Vidal shoal buoy, all steamers bound down must slow down to a speed not exceeding seven miles an hour until reaching the canal piers. After getting under way from Sault Ste. Marie, the limit or maximum speed of seven miles an hour shall be maintained only till the crib lights at the south end of the 20-foot channel through Little Rapids cut in the north end of Hay Lake is reached; but, as before noted, when steamers or other craft are meeting, both shall check down to a slower speed until they have passed each other. The seven-mile speed rule shall apply again from the float lights at the north entrance to the dredged channel, lower end of Hay Lake, to the can buoy in Mud Lake.

REGULATIONS OTHER THAN SPEED, UP-BOUND.

Rule 3.—In ascending the St. Mary's River no steamer shall approach another steamer, bound up, nearer than one-half mile, while between the can buoy in Mud Lake and the northern float lights in the north end of the 20-foot channel at the southern end of Hay Lake. This rule shall apply also between the crib lights at the south end of the 20-foot channel, going through the Little Rapids cut, north end of Hay Lake, and the government dock at Sault Ste. Marie, and again from the canal piers at the west end to Big Point, one mile west of Vidal shoal.

This rule shall be strictly enforced except in cases where a very slow tow is going up—so slow as to be unable to keep up the speed limit in such cases at these places—namely from the can buoy in Mud Lake to Everens' Point, and also between the black buoy No. 13, and the northern float lights going into the 20-foot channel at Harwood's Point. (This is commonly called Little Mud Lake.)

A slow tow must, on being given the signal usual in such cases from the overtaking boat, answer said signal and immediately lie over as far as possible to let the overtaking boat pass. The overtaking boat must also check and pass slowly, and it shall be obligatory on the passing boat to pass at least 500 feet from the boat or boats that are being passed.

In Hay Lake the faster boats may pass slower ones, but they must not pass either a steamer or consort any closer than 500 feet, and the slower boats must give the faster ones all the opportunity they can to allow the faster boats to pass in safety. Should the slower boat cut across or crowd the passing boat, this shall be considered an act liable to a fine.

REGULATIONS OTHER THAN SPEED, BOUND DOWN.

Rule 4.—No steamer descending the St. Mary's river from what is known as Big Point, one mile west from Vidal shoal buoy, to the west end of St. Mary's Falls Canal piers, shall approach nearer than one-half mile to another steamer. After getting under way from Sault Ste. Marie, no steamer shall approach closer to another steamer bound down than one-half mile until the crib lights at the south end of the 20-feet channel through Little Rapids cut, at the north end of Hay Lake, is reached. And from the float lights at the north end of the 20-foot channel at the lower end of Hay Lake to the can buoy in Mud Lake, no steamer shall approach another going in the same direction nearer than one-half mile. But in Hay Lake steamers may pass slower-going craft, either a single steamer or tow, by strictly following the rule that they must not pass any closer than 500 feet from the slower boats.

GENERAL REGULATIONS.

Rule 5.—Special attention is called to Rule 24, of the act of Congress, approved February 8, 1895, giving the right of way to the descending vessel in the St. Mar'ys river.

Rule 6.—The patrolling vessels of the revenue cutter service shall always have the right of way over all other vessels, as indicated by the sailing signals given by such patrolling vessel.

Rule 7.—Three long distinct blasts and two short blasts of the steam whistle, when sounded from a patrolling vessel, will indicate that the vessel to which such signal is given is proceeding at too high a rate of speed, and such vessel must immediately moderate her speed accordingly.

Rule 8.—Two long blasts of the steam whistle, followed by two short blasts, when sounded from a patrolling vessel, will indicate that the vessel to which such signal is given must stop immediately and remain stationary, when bound up; when bound down, as near to a stop as is prudent to safely navigate in the current, until further orders from the patrolling vessel.

Rule 9.—Two red lanterns, one over the other, hoisted upon a patrolling vessel at night, will indicate that the vessel to which such signal is given that such vessel must stop, and not proceed further toward the position where such lights are displayed. No vessel nor raft shall anchor in said river between Everens' Point and the float lights at the north end of the 20-foot channel leading from the Neebish channel to Hay Lake, nor between the crib lights at the entrance of the upper 20-foot cut Little Rapids channel and the crib lights at the northern entrance of Hay Lake channel, except when in distress or during a fog; and any vessel so anchored must always shift her anchorage when directed by the officer in charge of a patrolling boat to the place designated by such officer.

Rule 10.—Vessels navigating the St. Mary's river may anchor between Point Detour and Mud Lake turning buoy, and at Sailor's Encampment, close to the wharves of the saw mill on Hay Lake, between the Neebish and Little Rapids channels, but outside of the channel as indicating by the ranges; but nothing in this rule shall be constructed to prohibit any vessel from lying alongside any wharf in said river.

Rule 11.—Rafts being towed in the St. Mary's river will be required to use what is termed the "old channel." From Harwood Point to Mud Lake turning buoy they will move at the time designated by the officer in charge of the patrolling vessel. When lying by they must be anchored out of the channel.

Rule 12.—In navigating the St. Mary's river, in all cases where the foregoing rules are not applicable, the attention of masters and pilots is called to the sailing rules contained in the act of Congress, February 8, 1895.

Rle 13.—All vessels navigating the St. Mary's River, in passing dredges and vessels at work on improvements to the channel, will be required to slacken their speed upon approaching such dredge or other vessel engaged in such improvement, giving the signal of three distinct blasts of the steam whistle.

Rule 14.—The pilot of every steamer descending the St. Mary's River shall, when abreast of the black buoy at Rain's shoal, and before passing around the bend of the river at Sailor's Encampment, give a signal of one blast of the steam whistle of ten seconds' duration, which shall be answered by a blast of the steam whistle of the same duration by any steamer ascending said river within hearing. The pilot of every steamer ascending said river, not having heard such signals from a descending steamer, shall, when abreast of Everens' Point, and before passing around the bend of said river at Sailor's Encampment, give a signal of one blast of the steam whistle of ten seconds' duration, which shall be answered by a blast of the steamer whistle of the same duration by any steamer descending such river within hearing. After such signal of one blast of the steam whistle of ten seconds shall have been given and answered, the usual passing signal shall be given.

AIDS TO NAVIGATION.

THE RIVER AND HARBOR BILL.

The House passed the river and harbor bill Monday, and it is practically a law. The Senate never cuts down appropriation; although once in awhile that body increases them. A notable feature of the bill was that authorizing contracts for $1,354,000 worth of work on Cleveland harbor, of which $80,000 is made available upon the enactment of the present bill. This provides for rebuilding the east and west piers, $180,000; dredging 150,000 cubic yards, $30,000; contingent expenses, $15,000; total, $225,000. Piers inside Lake Shore Railway bridge, $26,000; dredging 40,000 cubic yards, $8,000; contingencies, $1,000; total, $35,000. For repairing superstructure of breakwater, $597,300; superintendence, etc. (less than 4 per cent), $22,700; total, $620,000. To complete eastern arm of breakwater on present plans, $494,000. The bill provides, however, for a survey to determine the advisability of changing the plan of the breakwater so as to abandon the eastern shore arm and extend the breakwater easterly, parallel with the shore.

Another continuous contract is authorized in the case of Buffalo. The clause of the bill relating to this is as follows:

Improving harbor at Buffalo: Improvement by extending breakwater southerly to Stony Point. Provided that contracts may be entered into by the Secretary of War for such materials and works as may be necessary to carry out such extension and the plan of such improvement as notified in the report of the chief of engineers for the improvement of that harbor for 1895, such contract to provide that the sand catch pier be extended to the bulkhead line at a cost not exceeding $35,000 and that the northerly section of said extension to Stony Point and the sand catch pier extension shall first be constructed, to be paid for as appropriations may from time to time be made by law in the aggregate not exceeding $2,200,000.

There is available for work this season, $100,000.

Other Lake Erie improvements are provided for as follows: Tonawanda River and Niagara River to the north line of Tonawanda village, $50,000; for Niagara River from Tonawanda to Port Day, continuance, $15,000; improving harbor at Dunkirk, continuance, $10,000, to be expended in accordance with modified plans, provided that the Secretary of War may enter into contracts for such materials and work as may be necessary to complete the modified project for its improvement, to be paid for as its appropriations may from time to time be made by law, not to exceed in the aggregate $398,258, exclusive of amounts heretofore appropriated. At Erie, Pa., the Secretary of War is directed to cause a re-survey of the harbor out of unexpended money heretofore appropriated for the improvment of that harbor. Conneaut gets $40,000, one-half to be expended on a breakwater; Ashtabula, $50,000, of which $40,000 is for a breakwater; Fairport, $30,000, of which $20,000 is for a breakwater; Lorain, $20,000, in addition to authority for a survey with a view to improving access to the harbor; Vermillion, $4,000; Sandusky, $40,000, and a survey for a channel to Cedar Point; Huron, $8,000; Port Clinton, $6,000; Toledo, $150,000, a part of which is to be used in removing the shoal in the old channel and extending the improvement up the Maumee River; Monroe, Mich., $5,000. There is also provision for a survey of Starve Island Reef, between Marblehead and South Bass, or Put-in-Bay Island, over which there is only 17 feet of water, and an estimate of the cost removing it to a depth of 25 feet. The reef is in the South Passage, which is used more and more every year by the Lake Erie south shore trade, and it is probable that the next river and harbor bill will contain a provision for its removal.

On Lake Michigan, Milwaukee improvements are placed under a continuous contract involving the expenditure of $168,737.91. For continuing work on the harbor of refuge there, $20,000 was appropriated, and $7,000 for maintenance of the harbor, of which $5,000 is to be expended in Fox River below the pier; South Milwaukee, $5,000. For improving the Calumet at Chicago, $75,000 is allowed and for Waukegan, $20,000 is provided, as well as $70,000 for the outer harbor, and $10,000 for the inner harbor at Michigan City. There is also provided for Chicago River, $50,000, with authority for contracts to $650,000. Other improve-

(CONTINUED ON PAGE 9.)

NEWS AROUND THE LAKES.

BUFFALO.

THE HARBOR THERE NOT LIKELY TO OPEN BEFORE THE 20TH—SOME QUEER STORIES WITH AND WITHOUT FOUNDATION.

BUFFALO, April 7.

Coal men say they are not going to look for tonnage now, and it may be the very last of the month before they are ready. Vessel men are in no hurry, except on general principles. They would like to see everything tied up till May. Brokers do not appear to be inclined to oppose the proposition to make a lower rate on coal to South Chicago than the Chicago River, as they see the force of the argument, so no one need be surprised to find South Chicago and Milwaukee taking a lower rate than Chicago proper, whether the old port likes it or not. With Hedstrom, the Lehigh and the Reading all located on the Calumet, that is the coming port, no matter who says nay.

Buffalo harbor is blockaded with ice again. The wind has driven it down so far that there is no getting out, even to go down the river. For the past week there has been signs of a breaking up. in spite of the cold weather. The ice was full of seams and the north shore was open some miles up; but if the blocking is as complete as it seems to be, it will take more to open navigation than seemed probable last week.

There is the usual delay in the season's dredging of the harbor by the city. Just so sure as the dredgers get ready to go to work someone will interpose and the matter will drag along till the season is half gone before the work is done. This year it is the manner of spreading the assessment. Already some weeks have been wasted and it is likely to be months before the snarl is untangled.

Capt. Soper, the harbor master, is into the cause of early dredging all over,and will get it started if the thing can be done. He called on some brokers a day or two ago, to drum them out for a meeting on the subject at city hall and struck a very different phase of business. "Captain" said one of them, "I want to congratulate Grover Cleveland on looking exactly like you. He is bigger and balder than you are, but that is all the difference. I saw him last week and thought of it."

The lake lines have apparently closed the taking of outside boats for the season, The Anchor line has the Nicholas again; the Clover-leaf line the Blanchard and F. & P. M. No 5; the Lackawanna line the Cuba, Florida, Wyoming and Orr; the Northern line, the Weed; the Soo line, the Nebraska, Gould, Pridgeon and Dyer; the Western line, the Gratwick (steel), Gilbert and Kearsarge.

Some people are given to finding fault with the press for telling stories that should be kept in the background, but the fact is that if half the yarns heard in marine circles were repated in print there would be a small revolution started at once. There is a vessel undergoing repairs here that has always been pointed at by lake men as a menace to all on board. A lake captain took occasion the other day to fire at her in her peculiar style. "I see they are fixing her up," he said. "Well it is time. Many a time I have met her plowing her way up Lake Huron with four motions on her, just like a rattlesnake. If they can take that out of her they will do well at this age, for she is not so young as she used to be."

The various dockmen are doing the still-hunt act as the best way of getting their organizations started again. The going to pieces of the shovelers, union two years ago about cleaned them out, but now the shovelers are organized again and the elevator men are following suit, with prospect of more branches to come. They will not give out any reports of proceedings, preferring to gather strength quietly.

Some little hope of a good lumber rate has been inspired by the report that Duluth is still demanding the same $2.25 to Buffalo that was the asking price during the winter. It was supposed that it conld not be obtained, but it may be possible after all. Dealers here are quite indifferent to rates, as a rule, as they are not in need of lumber.

It is reported that the Western line crews are under orders to be ready to sail on the 18th. The agreement was not to sail before that date, but there is no doubt that some of the lines will begin operation by that time if there is any chance of getting out then.

The confident statement that the Northern Steamship Company was preparing to build two big grain elevators on the property lately acquired here should be passed around as a happy instance of the rapid growth of imaginative quantities. Somewhere, in remarking on the new terminal facilitles of the company here, I stated that the company would need an elevator as well as a warehouse. That appears to have been the whole story. If President Hill does not hurry back from Europe and stop this thing the accommodating newspapers will have his new dock front so loaded down with improvements that he will never be able to find it again.

Some of the tug people are scandalized. There are three or four in the harbor lines that are on duty most of the time, winter or summer, while the others come down once in a while and look at their shadows, like the bear on the 2d of February and then go back for another six weeks or so. The other day one of them discovered that an enterprising ship-store man had actually built a storm house in front of his place, right in sight of the tug offices. One captain said that if the fellow didn't know any more than to encourage cold weather in that way some one ought to go and tear the thing down.

The people of Niagara Falls will have an opportunity to spend $100,000 for lands and docks on Niagara River above the Falls, by a bill which has passed the State Assembly. It creates a Board of Harbor Commissioners at Niagara Falls, and authorizes them to expend $100,000 for the building of docks, piers, wharves, slips, basins and bridges along the river. One dock is to be 1,060 feet long, another 1,380 feet, and the third 600 feet. The city will have forty years in which to pay for these improvements.

The traffic department of the Northern Steamship Co. has removed its offices from No. 60 Main street to the Birge Building, corner Main and Seneca streets, Buffalo.

The lake people who started the story that the Buffalo elevators would not hold all the grain that is to come down from Chicago on the first fleet could not have counted very straight. The elevators are about empty, and the fleet has been larger than it is now.

JOHN CHAMBERLIN.

CHICAGO.

TAE SCHOGNER MARCIA SADLY EMAARRASSED BY LOW WATEK—MASTERS ANE ENGINEERS RAPIDLY JOINING THEIR BOATS.

Special Correspondence to The Marine Record.

CHICAGO, April 8.

The large grain fleet in winter quarters here, are being fitted out, and the engineer are busy getting the machinery ready for a start as soon as navigation opens. Many capstans have arrived this week. Among the arrivals are Capt. D. Nicholson, of the Tom Adams; Capt. William Cowan, of the John Mitchell; Capt. B. Nelson, of the William F. Sauber; Capt. E. Gatfield, of the Harvey Brown; Capt. C. Chamberlin, of the E. M. Peck; Capt. Girardin, of the Kirby; Capt. Parsons, of the Wm. H. Gratwick; Capt. Rae, of the Zenith City; Capt. Townsend of the Edward Smith No. 2; Capt. Miller of the Edward Smith No. 1; Capt. John McNeil of the Thos. Cranage; Capt. N. Miner, of the Iron Duke; Capt. W. Irwin of the Iron Chief; Capt. Wm. Millen of the Iron King.

The U. S. local inspectors of hulls and boilers are very busy. They have inspected already this season, 40 steamers and tugs.

The schooner Isabella Sands, Capt. August Johnson, which arrived Monday morning with salt from Manistee was the first sailing vessel to arrive here this season.

The schooner Winnie Wing which left here Saturday afternoon for Manistee was the first sail vessel to leave this port this season.

The steambarge Maggie Marshall which arrived here April first with salt from Manistee was the first arrival this season of the coarse freight carrier.

C. W. Elphicke & Co. chartered the steamer J. J. Hill for wheat to Buffalo at 2c. the schooner Manda for 165,000 bu. corn, South Chicago to Buffalo, at 1½c; whaleback 117, for 96,000 bushels wheat to Buffalo at 1¾c; schooner Malta, for 123,000 bushels, wheat to Buffalo at 1⅞c schooner Marcia for 124,000 bushels wheat to Buffalo at 1⅞c; schooner C. P. Minch, oats to Port Huron at 1½c.

The Dunham Tug Company towed the steamer Omaha loaded, to Milwaukee to fit out; the U. S. Revenue Cutter Calumet to Miller Brothers' dry-dock; the steamer W. F. Sauber to South Chicago.

The Independent tug line towed the schooner Winnie Wing—the first schooner to leave Chicago this season, out on Saturday, and the schooner Isabella Sands—the first schooner to arrive here this season,—in on Monday.

The schooner Marcia has had a tough experience since loading at Armours A. and B. elevators. She had about 13,000 bushels of her cargo of wheat unloaded before getting away from the dock, then she got around in the draw of Division street bridge and remained there several days, entirely putting a stop to all traffic. She is now aground in the Ogden canal, opposite Miller Brothers shipyard, where she is likely to remain until the water in the river rises or some more of her cargo is lightered.

The L. M. & L. S. Trans. Co.'s steamers Peerless and City of Duluth will be put in the passenger and freight trade this season between Chicago and Lake Superior ports, and their steamers City of Traverse and Jay Gould will carry freight only. The company's steamer Manitou will make one trip to Duluth and all points on Lake Superior this season before going on her route between Chicago and Mackinaw.

The Goodrich Trans.Co.'s side-wheel steamer Chicago, arrived here Friday from Manitowoc on her first trip this season. She has taken the place of the Company's steamer City of Livingston, which is getting her spring overhauled at Manitowoc.

The steamer Glenn, of the Williams Transportation Co., South Haven, experienced a rough time when trying to get out of South Haven on Friday evening in consequence of the low water on the bar at the entrance to the pier. The Glenn grounded on the bar and swung around against the sonth pier, which was heavily clad with ice, and stove in her bulwarks between the main rail and upper deck, nearly her whole length on the port slde, and broke several stanchions. The Glenn ran back, and after receiving repairs left again for Chicago where she arrived Saturday afternoon on her first trip this season.

The Goodrich Transportation Co.'s steamer Atlanta, Capt. William Nicholson arrived here Sunday from Manitowoc on her first trip, this season. She left Monday evening for Grand Haven and Muskegon. She will make tri-weekly trips until it is necessary to put on a daily line, when the steamer City of Racine will join her.

The steamer Denver, light, arrived here Monday from Milwaukee to load grain.

The Northern Michigan Line steamer City of Charlevoix, Capt. Wm. Finucan, left here on the 4th for northern Michigan ports on her first trip this season.

THOMAS WILLIAMS.

CLEVELAND.

THE NEW HARBOR OF MASTERS AND PILOTS ORGANIZES AND CHOOSES OFFICERS—LOW WATER IN THE CUYAHOGA.

CLEVELAND, April 9.

Capt. Samuel W. Gould has closed his navigation school for the season, after a very interesting and successful term.

Capt. H. J. Kendall is here from Port Huron to fit out the steamer H. J. Kendall.

The steambarge Cleveland, towing the Eureka and Magnet, were the first arrivals from a distance this year. They came in on Monday and will load coal for the rivers.

The Cuddy-Mullen Co. and the Morris Coal Co. have combined in a corporation to be known as the Cleveland Fuel Co., handling all steamboat fuel business that is to be done by lighter in Cleveland. The Cuddy-Mullen Co, is already in possession of a lighter that is to be taken over by the new company, and another lighter will be built at once. These lighters will be available for work on the Northern Line passenger ships whenever it may be inconvenient to fuel the big steamers from chutes.

The water in the main river is very low, and at one coal dock on the west side of the river, above Main street bridge, boats are able to load to only 12 feet. Some dredging needs to be done at once.

Harbor 42, American Association of Masters and Pilots, was formed here last Saturday evening, with about fifty charter members, most of whom had been members of the lately dissolved harbor of lake pilots. Capt. W. A. Collier was elected captain; Alex McLaughlin, first officer; Thomas Allen, second officer; C. E. Benham, purser. The harbor will retain the rooms of the former harbor No, 94 Superior street. Capt. Benjamin Perkins, of Camden, N. J., who organized the lodge on belief of the Grand Harbor, went to Toledo, where everything was in readiness for him, and found Harbor No. 43 there Tuesday evening. A private telegram from Chicago, received this (Thursday) morning stated that the first annual ball of Chicago Harbor, the pioneer lake organization of the American Association of Masters and pilots, held Wednesday night, was a pronounced success, the attendance being very large.

The Cleveland Tug Company has moved its offices from No. 1 Front street to No. 23 River street. The old block will be partially rebuilt and remodeled. Chauncey A. Morgan, the new manager, is now busy fitting out the tugs for the season.

Capt. W. S. Mack and Capt. George P. McKay left for Detroit Wednesday night to arrange for lighting and staking the new channel at Ballard's reef and to arrange with Capt. Andrew Hackett and Duff & Gatfield for the maintenance of other private lights.

Capt. C. E. Motley, keeper of the life-saving station here, received instructions to put his crew into commission on the 8th inst. This is the first crew to begin service on this lake.

IN GENERAL.

Floods in Toronto did some damage to shipping last week.

Lake Huron Life-saving stations will open on the 16th inst.

The Maytham and Hand Tug lines, of Buffalo, have announced a cut of 10 per cent on their rates this season.

Capt. P. Doherty, keeper of the life-saving station, has just finished a new boat for that station. It was built in Collingwood, and is modern in every way.

A large force of men began work last Monday at Huron, making preparations for the improvements to be made by the W. & L. E. R'y Co. and the Huron Dock Company.

The Ashtabula life-saving crew will go on duty Friday. Capt. Walworth has enlisted the following men-No. 1, George Wilson; No. 2, Gardner Johnson; No. 3, Irwin Hinnan; No. 4, Gilbert Rofbins; No. 5, Clinton Bentley; No. 6, Will Frazier; No. 7, Stephen Vail.

The schooner Good Intent, said to be the oldest craft registered in the official list of merchant vessels, is about ready to start out on her eighty-fourth year of cruising, from Belfast, Me., where she has been tied up during the winter.

MARINE RECORD Life Savers' Series.

CAPT. INGAR OLSEN.

The latest acquisition to the rank of keeper in the United States Life-Saving Service is Capt. Ingar Olsen, who is about to open the newly-built station at Plum island, Wis. Capt. Olsen is also one of the youngest of the keepers, being but twenty-five years of age. He has served with honor and distinction, however, and it is considered by all that he has merited his rapid promotion.

Ingar Olsen was born in Norway August 29, 1871, and grew up beside and on the sea. His first experience as a life-saver was in 1884, when, at the age of thirteen years, he rescued the master and mate of a Norwegian ship with whom the ship's boat had capsized. Young Olsen was munificently rewarded for his heroism by the captain in the sum of about $5 in Norwegian money. The following year he went to sea, and sailed out of Norway for about two years, after which he came to America. From 1887 to 1889 he sailed out of Milwaukee on the Great Lakes, but in the spring of 1890 enlisted in the Milwaukee life-saving crew. He served under Capt. N. Peterson until the fall of 1893, and was presented, in that year, with a gold medal of the first class, in recognition of his heroic conduct on April 20th of that year, in rescuing "by superior intelligence, strength, and courageous daring, James Miller, the sole survivor of fifteen men from the waterworks crib at Milwaukee." The terrible events of that awful storm are too well known to be recapitulated here.

He continued to serve with the Milwaukee crew through the change of keepers, and received his appointment to the Plum Island Station on February 26. He will have eight surfmen in his crew, but does not expect to have a full crew before the latter part of June, as some little time will lapse before he receives his station outfit. He moved his effects into the new station this week.

THE COMPASS DEFLECTOR—A NEW INVENTION.

Capt. John Maurice, of Chicago, the well-known compass expert, has invented an instrument which he calls "Compass Deflector," for the purpose of finding, with ease and precision, the direction of magnetic forces on board ship, and thence the deviation. He writes regarding its uses as follows:

The deflector, in measuring magnetic forces, is practically a substitute for the vibrating needle, over which it has the advantage of being applicable at sea as well as in dock.

When observations of deviation are not sufficient in number to determine the principal magnetic coefficients they may be supplemented by observations of directive force; and when deviations cannot be observed at all, observations of directive force on the four cardinal compass points suffice to find the deviations for all courses, without any bearings.

This independence of bearings renders the deflector a most valuable instrument on board ship for controlling compasses, and finding deviations at any time during a voyage. The deflection is the only instrument at sea by which the deviation pure and simple is found, regardless of the variation.

The deflector is also used to test the correctness of any compass as to its make. Faults in the construction of a compass cause irregularities in the deviations, in consequence of which correct results regarding magnetic ship's forces cannot be obtained. By using the deflector, such faults and irregularities are easily detected, before the compass is taken on board.

Furthermore, the deflector is used to find whether the compass is in a proper position or not, on board ship. Magnetic forces in too close proximity to the compass produce irregularities in the deviation, which, by using the deflector, are easily guarded against, before the vessel is swung.

A very important feature in using the deflector is that the heeling error for North and South courses and consequently also the heeling coefficient is obtained from observations of directive force, when the vessel is headed east and west per compass. As the deflector can be operated at all times when the vessel is under way, in clear as well as in thick weather, the lack of astronomical observations, and of bearings, is no longer a bar to finding deviations, and keeping the compass under permanent control.

Application for a patent in England has been accepted by the comptroller-general, the specification of the invention having been published in the official journal of the patent office.

VALUE OF ADVERTISING.

It has been accurately demonstrated, says The American Machinist, that 80 per cent of the business firms of the country that fail are those that never advertise. There can be no disputing this statement, because it is capable of being run down to a nicety. There is no doubt that many thousands of dollars are annually thrown away in worse than useless advertising, but on the other hand it is eqnally true that men that know how to advertise never fail to receive abundant returns. And the very first question to be determined is the medium that is to be used. This necessitates inquiry and careful investigation as to the character and class of readers reached by said medium. Not every statement bearing upon what a paper is doing must be accepted as unvarnished truth, but should, when possible, be verified. Character in those offering advertising on the market is something that must be taken into consideration by the advertiser. A publisher devoid of honesty and truth is to be avoided, no matter what his inducements and claims may be. So a publisher that will discriminate in rates is one wholly unworthy of patronage or favor of any kind. It has always paid

CAPT. INGAR OLSEN.

thus far to advertise, and it always will pay when properly done. That advertisers are unable to directly trace results does not always signify anything. A good deal of casting bread upon the water must be done in every business, and because two dollars cannot be seen to come in where one goes out does not imply that the expenditure has been in vain. Business men need to study the art of advertising much more than they have been in the habit of doing.

The evidence of the pilot who was on the American Line steamship New York, when she stranded at the entrance to this harbor, while coming in last Saturday morning, remaining fast until Sunday morning, was to the effect that he asked Capt. Grant repeatedly to have the anchors ready, and the captain refused to anchor, saying it would take some time to get them ready. The fog was quite dense at the time, and a miscalculation of position accounted for the stranding. Whether this was the only cause for Capt. Grant's resignation is not stated, but it is rumored that the company were likewise displeased at his giving to the reporters, who visited the ship in a tug, a full statement in replies to their questions, before he had made his report to the company's office. The ship sailed on Wednesday in charge of Capt. Watkins.—New York Correspondence to Fairplay.

RATES OF SPEED AND RATES OF FREIGHT.

In a paper under the above title, read before the Institute of Engineers and Shipbuilders of Scotland, Mr. John Inglis, the well-known Glasgow shipbuilder, discussed the question of the commercial efficiency of steamships in a most original and interesting manner. While his remarks treat only of ocean service, the principles are as applicable to the ever-increasing trade of the Great Lakes, and even more so, on account of the shorter length of the voyages, and the liability of delays for reasons which do not obtain on salt water. The paper was illustrated with a series of elaborate diagrams. Mr. Inglis is among those who are of the opinion that the competition among the various transatlantic lines, in striving to attract passengers by means of vessels containing enormous engine power and great speed, must result in financial loss to the shareholders at present rates for passengers and cargo. Whether as present mail carriers or prospective cruisers in time of war, the Campania, Teutonic, and other such vessels are a source of national strength, and consequently those who order them should be assured that they will not be losers, pecuniarily, by their enterprise. But up to date the only reward which these companies receive from the state consists of a somewhat meager postal subsidy for the carriage of Her Majesty's mails. Mr. Inglis said, in part:

I shall ask you to conceive of a ship of about 10,000 gross tons, which alters her form and becomes finer and finer as the power of her engines is increased; or, otherwise, let there be an infinite number of such ships, differing from each other in form by very minute gradations. Then we are to suppose that the ship owner can choose any rate of speed he likes without thereby affecting the volume of his business, his hand not being forced in any way by competitors; also that he can always fill his ship with cargo to her utmost capacity, and that the number of passengers is the same on an average whenever the ship takes over her voyage.

Let us first take the case of a voyage out and home between two ports exactly 3,000 miles apart, performed at average speeds varying from 15 to 21 knots. Our steamer is supposed to have a displacement of 18,000 tons when adapted to the 15-knot rate, and for every knot added to the mean speed at sea 600 tons is taken off the displacement.

By means of a diagram it was made clear that an increase in speed of from 10 to 20 knots effects a saving of 6½ days on the voyage, but to go from 20 to 30 knots results in a saving of only 2 days 2 hours, and from 30 to 40 knots of no more than 25 hours. Taking values of indicated horsepower for which he considered he had sufficient warrant, and making allowances for weights of machinery, coal, stores, etc., from data in his possession, Mr. Inglis found that the surplus displacement available for deadweight cargo, which in the 15-knot steamer is 7,375 tons, has dwindled down to 18 tons —practically zero—in the ship of 21 knots. Hence he concluded that 21 knots was the limit of speed on a 3,000 miles run for this imaginary ship.

From this Mr. Inglis turned to the question of the duration of a vessel's stay in port, and the consequent number of voyages she can make in a year: Starting upon a basis of 750 tons a day, which he finds is the average rate at which a cargo can be discharged or loaded, taking into account inevitable causes of delay, it would appear that the very fast vessel with a very small cargo would be able to start off again almost at once. But there must be a minmnm time in port, even when there is little or no cargo, so that Mr. Inglis is advised that seven days is the minmum for such a ship, according to the custom of some ports. This period corresponds exactly with the time occupied in loading and discharging the cargo of the imaginery steamer when she has a speed of 19½ knots.

The ship, therefore, which is adapted to that rate of speed, according to this hypothesis, will carry just as much cargo as can be discharged and loaded in seven days, and all the faster ships of that family will have a certain amount of lost time, unless the delay in port be necessary for other reasons.

Mr. Inglis then considered the various items of which total expenditure is made up—port charges, office expenses, wages of officers and crew, provisions for ship's company and passengers, insurance, maintenance and repairs, shore gang and docking, coal and engine-room stores, and depreciation. He assumed that

Forty days in the year, besides the intervals between voyages, are reserved for overhauling and repairing, leaving 325 working days per annum. The average number of passengers is supposed not to be affected by the speed. This is not likely to be the case, until after

wars and fightings have ceased among the rival steamship companies, but it is convenient for the purposes of this paper to make the assumption.

From information supplied by different Atlantic lines it was estimated that a reasonable average per voyage is 185 first-class, 110 second, and 400 third-class passengers, which Mr. Inglis used in his calculations. Maintenance and repairs he charges at 2½ per cent of the hull cost and 7½ on machinery; depreciation he takes at 7½ per cent of first cost. The price of first-class passage was $30, second $15, and third $7.50. Dead weight freights were taken at about 75c per ton per 1,000 miles. On these assumptions Mr. Inglis demonstrated, by means of tables and diagrams, that the margin of profit widens slightly but continuously, until a speed of 19¼ knots is reached, when the time in port is fixed at a minimum of seven days; above that speed profit rapidly decreases, becomes zero at 19.675 knots—less than half a knot above the speed of maximum profit, and is transformed into a loss of 9½ per cent. of the cost of the vessel when the speed becomes 21 knots.

Reducing the stay in port to four days, the best-paying speed is raised to 20 knots, and the vessel adapted to that speed makes a profit of £14,898, instead of a loss of £17,555. The speed at which profit vanishes is 20.425 knots instead of 19.675 knots, and the loss on the 21-knot steamer is reduced to 5 per cent. From these striking figures Mr. Inglis concludes:

The paramount importance of dispatch is thus shown in a very striking manner. Evidently it is by no means advantageous to encumber the working of passenger steamers by carrying heavy cargoes, which cannot be discharged from and loaded into such vessels, with the rapidity which is possible in the case of vessels built expressly for cargo carrying. It might even be shown that it would be more profitable to run a 15-knot steamer with half cargoes, so long as she could obtain her average complement of passengers, on more frequent sailings, than to keep her in port for the additional time necessary to handle the full cargo; but in that case she would be unnecessarily full in form for the purpose.

The decline of our shipbuilding industry is due, as is well known, to the fact that the British builders obtained a decisive advantage when metal was substituted for wood as the chief material for the construction of ships, for iron and steel could be purchased in Great Britain for much less than in America. The advantage due to cheap materials, which has long been enjoyed by the British builders has been slowly fading away, and will, in all probabiliiy, soon be transferred to American builders, for the iron masters of Great Britain are finding it necessary, to an ever increasing extent, to resort to foreign shores for adequate supplies of good ores.—Marine Journal.

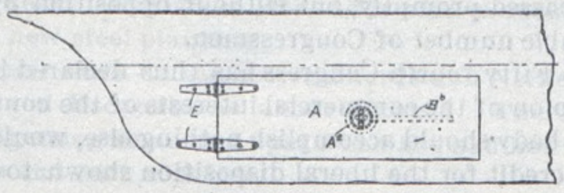
VISIBLE SUPPLY OF GRAIN.

As compiled for THE MARINE RECORD by George F. Stone, Secretary Chicago Board of Trade, April 4, 1896:

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Albany	.....	8,000	32,000	.....	.....
Baltimore	104,000	729 000	109,000	87,000	.....
Boston	118 000	38 000	81,000	.....	.....
Buffalo	1,092,000	85,000	84,000	187,000	315,000
" afloat	65,000	.....	106,000	.....	.....
Chicago	17,673 000	6 468,000	1,861,000	452,000	13,000
" afloat	1,093,000	6,317,000	1,296,000	.....	.....
Cincinnati	11,000	2 000	18,000	1 000	36 000
Detroit	251,000	12,000	8,000	13,000	9,000
" afloat	.....	.....	.....	.....	.....
Duluth and Superior	13,932,000	143,000	1,156 000	208,000	343,000
" " afloat	512 000	.....	.....	.....	.....
Indianapolis	70.000	24 000	.....	.....	.....
Kansas City	1,244,000	178,000	70,000	28,000	.....
Milwaukee	417,000	.....	17,000	266 000	34,000
" afloat	176,000	.....	280,000	.....	.....
Minneapolis	19,309 000	64 000	805,000	118,000	191,000
Montreal	902,000	73,000	397,000	6 000	61,000
New York	1,322,000	198,000	1,554,000	21,000	54,000
" afloat	52,000	.....	.....	.....	10,000
Oswego	.....	.....	.....	.....	26,000
Peoria	16,000	81,000	335 000	6 000	.....
Philadelphia	121,000	94,000	128,000	.....	.....
St. Louis	1,182,000	1,070,000	483,000	3,000	.....
" afloat	.....	120,000	.....	.....	.....
Toledo	626,000	937,000	64,000	127,000	.....
" afloat	.....	.....	.....	.....	.....
Toronto	34,000	.....	100,000	.....	48,000
On Canal	.....	8,000	12,000	.....	.....
On Lakes	.....	.....	.....	.....	.....
On Mississippi	.....	340,000	24 000	.....	.....
Grand Total	60,322 000	16 989,000	9,020,000	1,523 000	1,140,000
Corresponding date 1895	72,703,000	12 890 000	5,815 000	245,000	685,000

NEW INVENTIONS.

William E. Cole, of Atlanta, Ga., thinks he has solved the question of wing rudders, and has secured a patent (No. 557,052) on his steering apparatus. His claim is for wing rudders which are pivoted at their front ends on opposite sides of the bow, a steam cylinder for each rudder, a piston and piston rod in each cylinder, a loop bar which projects through the open end of each cylinder and is connected with one of the rudders, and springs applied to the piston rods, the piston rods being made to project through the cylinder heads to receive the springs. The loop bars are loosely connected to the outer sides of the pistons and the inner sides of the rudders.

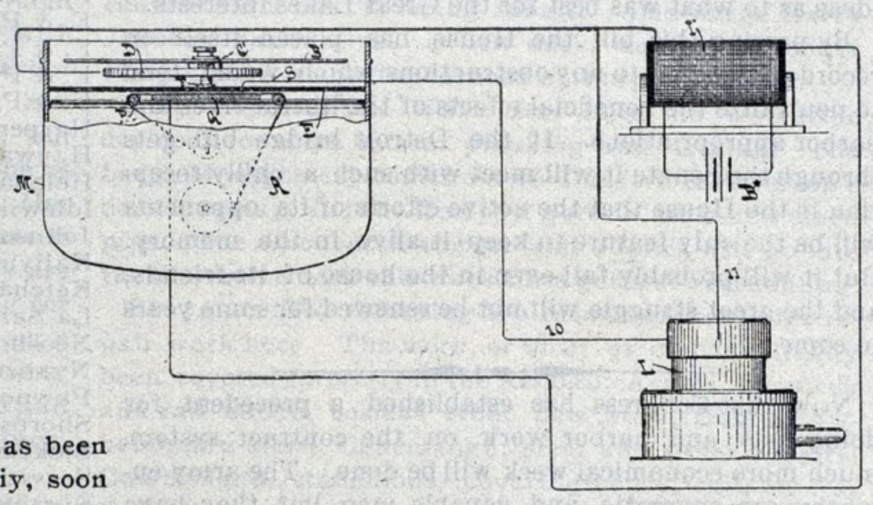


Charles L. Jaeger, of Maywood, N. J., has patented (No. 556,987) what seems to be an ingenious device called an "Electric Recording Instrument for Ship's Compasses and Logs." The claim is as follows:

1. A combined recording compass and log comprising in its structure a magnetic needle for recording the ship's course, a make-and-break contact actuated by a log mechanism, conductors in connection with said make-and-break contacts and arranged on opposite sides of said strip for indicating the distance sailed, an induction coil and electrical connections.

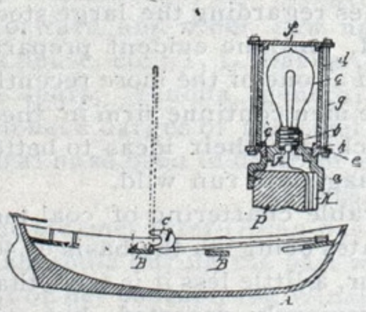
2. An electric recording device comprising a conducting disk having projections, a conducting arm actuated through suitable mechanism and arranged to rotate close to the conducting-disk, conductors for the disk and conducting-arm, a source of electricity, an induction-coil, a recording device and electrical connections.

3. In a combined electrical compass and log, the combination of a conductor G, a recording-arm D secured to the needle and arranged to revolve in proximity to the conductor, and curved as described to bring successive parts thereof over the conductor, means for feeding a strip of paper between the two, a recording member S and conductor arranged in close proximity to each other, and a make-and-break contact actuated by the log mechanism.



4. In an electric recording-log, the combination of a casing, a conducting-disk secured in said casing, a conducting-arm secured to the mechanism actuated by the rotator and arranged to rotate close to the conducting disk, a contact for the disk, a conductor for the conducting-arm, an insulating fluid in the casing, and electrical connections.

An "Electric Signal Lamp" is the invention of Alexander F. Ward, of Memphis, Tenn., on which he has secured Patent No. 556,946. His device comprises a dynamo, a hand-driven mechanism therefor, and an inclosing protective casing, in combination with a folding mast carried by the dynamo-casing, and a signal lamp at the upper end. A balancing resistance is included in separate branches of the main circuit, with an automatic switching device in mechanical connection with the dynamo, adapted to send the current alternately through said branches to produce a succession of flashes of varying length. The cap *a* forms the base of the lantern, and the cap *f* is removable; *d* is a transparent casing, and *g* shows one of the guard rods, tightening which serves to clamp the casing between *a* and *f*.



FLOTSAM AND JETSAM.

A 300-barrel oil gusher has been struck on Pelee Island.

Toledo expects to have the finest naval reserve corps on the lakes.

The water on Sturgeon Bay Canal is two feet lower than at this time last year.

The steamer State of New York is making tri-weekly trips between Cleveland and Toledo.

The gale last week blew down the Brown ore hoists at Lorain, pretty badly wrecking the affair.

The schooner Manda has loaded 165,000 bushels of corn at Chicago for Buffalo, on scant 15 feet—4,020 tons.

There has been cut 49,000,000 feet of lumber along the Ashland division of the Chicago & Northwestern Railroad.

Capt. Philip Schied, last year on the tug Wm. Kennedy of Cleveland, will have local charge of the new Ashtabula tug line.

Major William Marshall, U. S. engineer at Chicago, asks to be transferred from that post of duty, which has become unpleasant.

"The Olga Transportation Co." has been incorporated to operate the steamer J. C. Pringle and barges Harrison, Sweetheart and Unadilla.

As soon as navigation opens a wrecking expedition will go to the schooner Col. Ellsworth, which went ashore two miles from Whitefish Point, Lake Superior, last October. She is reported as still in good condition.

Gen. Craighill, Chief of Engineers, War Department, announces that he will appoint no successor to Major Post (General Poe's post) until the river and harbor bill and the fortifications bill become laws.

P. M. Church, of Sault Ste. Marie, is the lowest bidder (and will undoubtedly get the contract) on the work of replacing miscarried buoys. His bid was $2,795; David Tate, who was in charge last year, bid $4,799; Charles Thompson, $6,100; Joseph Rouleau, $3,580.

George H. Bowen, on behalf of the Marine Engineers' Beneficial Association, protests vigorously against that association being classed as a labor organization and its members being counted as "union men." He asserted that the association is no more a labor union than is the Order of the Maccabees, or any other benefit association.

George Hyde, a member of the gang who killed Canal Boatman Phillips in a riot over rates last fall, has been sentenced to the New York penitentiary for life. Graves, another of the crowd, will, it is said, plead guilty to manslaughter. The others who are indicted will probably plead guilty to inciting not the penalty for which is fine or imprisonment.

The new merchandise docks of the Lake Superior & Ishpeming Railway on Presque Isle (Marquette) have been completed. The ore dock when finished will be 54 feet high and 52 feet wide, containing 200 pockets. The approaches to the ore dock have been driven, and both docks will have been completed some time before the dredging is done or the tracks laid on the railroad.

C. F. Bielman was the lucky bidder for the marine mail work on Detroit River. His proposal was $14.50 per day. Others were as follows: Mills & Kendall, $24; H. P. White $23; D. J. McAlpine, $16; W. G. Swartout, $19; John Pender, $16.50; George W. McCullough, $17.80; Charles M. Payment, $15; Alex Ruelle (three bids) for the Grace Ruelle, $20; for the J. L. Miner, $30; for the C. A. Lorman, $40.

Some improvements in the manner of putting mail aboard a passing vessel at Detroit will be tried this season. It is the intention of those in charge to have the mail pouch idea tried. On most of the slower boats the steam launch will run along side close enough so that the carrier may throw a pouch containing the mail aboard the passing boat. The pouch will have a line attached long enough so that it can run out several hundred feet if necessary before the pouch is cast off. The pouch will be water tight, so that when it is thrown into the water no damage will be done to its contents.

The Kendall Marine Reporting Co., of Port Huron, will have an increase in their business of about one-third over last year. They have put their office in fine shape, and have purchased two new boats from Elisha Langell, of Marine City, to place on the river. The same river reporters, the Riggs Brothers, who have worked for them the last five years, will continue in their employ. Both are first-class men in a small boat.

MARINE RECORD

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CHAS. E. RUSKIN, - - BUSINESS MANAGER.

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CLEVELAND, O., APRIL 9, 1896.

THE underwriters are holding themselves very stiff this year, on account of last season's heavy losses on small tonnoge. The provision of the new policy which frees the underwriter from losses of under $250, seems just and calculated to lead to more care on the part of all in charge of the ship. But the rule requiring all damages to be reported within thirty days after their occurrence, seems hardly to correspond with the custom which the underwriters are trying to introduce, of docking vessels annually. To be sure it is desirable that losses should be reported promptly, from a business point of view; but some damages are liable not to be discovered until the boat has been docked for some other purpose. It is probable, however, that tne underwriters are only seeking a method of avoiding ordinary repair bills, which they have in several instances been asked to settle of late.

CLEVELAND has at last decided that she had best expend some municipal money on her harbor, and has asked the legislature for permission to borrow $500,000. This would be much more commendable did not the same bill, which it is desired shall be passed, contain authority to issue bonds for $1,000,000 for park purposes. Except for the dredging of the middle of the channel, and the money expended on abutting property, the harbor is in much the same condition as it was fiifty years ago, when vessels of three and four hundred tons burden were considered large ships. Parks are all right in their way, but preference in expenditure should be given to that which will attract commerce to the city. In view of the liberality of the Federal Government toward Cleveland's interests, as shown in the river and harbor bill, it would have looked much better had the million dollars been asked for the river and the half million for parks.

IT seems that croakers are almost too ready to pronounce winter navigation on Lake Erie a failure, judging only from the expericnce of the two Shenangos. A thinking observer, however, will notice that many of the numerous misfortunes of these boats were only indirectly attributable to ice, and they succumbed to a series of adverse circumstances. The Ann Arbor No. 1 got into a great deal of trouble before she settled down to business, and all new marine enterprises, like many on land, must pay for a deal of experience, north of which, in a well-managed concern, is gained during the infancy of the venture. There is no more reason why winter navigation should not be as practicable on lower Lake Erie as on Lake Michigan, saving during the rare periods when the ice gorges in some localities to the bottom of the lake. Both route and boats will be in better shape next winter than last, and there is little likelihood that they will encounter so many woes as have been visited upon them.

GOOD TIMES FOR WATER COMMERCE.

Monday deserves to be marked in Congressional history as a red letter day for water commerce. The House of Representatives, after two hours debate, and in a session when "economy" has been the watchword, passed a river and harbor bill authorizing expenditures of over $60,000,000, a sum far exceeding that authorized by any river and harbor bill in the history of America. The bill was not only passed promptly, but without opposition by any appreciable number of Congressmen.

The Fifty-fourth Congress has thus declared itself the champion of the commercial interests of the country, and if the body should accomplish nothing else, would deserve great credit for the liberal disposition shown toward the efforts to rebuild the merchant marine. The appropriations for the construction of more large battleships were carried more because of this spirit than on account of any immediate war scare; and the outlook for American shipping has not been so bright for many decades.

The unusually large appropriations for the more important lake harbors are most encouraging to the Great Lakes interests, and reflect the energy and tact which has been shown by our Representatives in Congress, from Hooker to Towne (geographically speaking), and by the many delegations of vessel owners and masters which have visited Washington during the present session. They knew what they wanted and why they wanted it, and were able to present all claims on behalf of themselves and the commercial interests of the Northwest briefly, but pointedly and lucidly. All the Congressmen worked together well, and no rivalries were allowed to stand in the way of what was deemed best for the country's welfare. Burton and Minor are two other leading Congressmen who deserve much credit, and who have added bright stars to their records. While some of the others advocated measures which would work against the interests of many of their constituencies, it will be allowed that they acted in good faith, according to their ideas as to what was best for the Great Lakes interests.

By passing this bill the House has placed itself on record as opposed to any obstructions which would tend to neutralize the beneficial effects of the liberal river and harbor appropriations. If the Detroit bridge bill gets through the Senate it will meet with such a chilly reception in the House that the active efforts of its opponents will be the only feature to keep it alive in the memory. But it will probably fail even in the house of its friends, and the great struggle will not be renewed for some years to come.

Now that Congress has established a precedent for doing river and harbor work on the contract system, much more economical work will be done. The army engineers are energetic and capable men, but they have been sadly haddicapped by being expected to work miracles with dribbling annual appropriations. Now they may proceed with the exercise of some foresight and are in a position to make their improvements substantial and permanent.

THE FREIGHT SITUATION.

In the absence of sales of ore, and owing to the late opening, the ore freight market has remained rather quiet during the week. The placing of a little tonnage from Marquette to Lake Erie at 90 cents is deplored by conservative owners as much as was the break to $1 on ore from the head of the lakes, and there is no further disposition shown to close at those figures. The statement that the output of ore for the year is to be materially cut down, as compared with last year, is offset by the reports from the mines regarding the large stock piles that have accumulated, and the evident preparations for a heavy production at one of the more recently opened properties. The ore men continue firm in their position, but if they do not change their ideas to better fignres the bulk of the tonnage will run wild.

There has been considerable chartering of coal tonnage for single trips, the rates being on the basis of 40c to the head of Lake Superior, a little less it is true, than the contract rate of 42½c previously reported, but still an improvement on some former freights. Several loads have been taken on at Cleveland and other Lake Erie ports, four whalebacks having been loaded at the fast plant at Ashtabula. The rate to Milwaukee is established at 50c by one or two Lake Michigan charters.

The feeling in lumber is a little stronger, owing to the accumulation of stocks at the head of Lake Supertor. Shippers have made some charters to Ohio ports at $1.75, which is the base for a $2 rate to Buffalo and Tonawanda, according to custom. An attempt will likely be made by Lake Superior shippers to wipe out this distinction, and to make the rate already established rule for all Lake Erie ports.

Grain is less active at Duluth, where shippers are very careful in chartering; and while owners ask 3¼c on first loads, only 3c is offered now, and this is paid only in rare cafes for more than two trips. Flour will be carried chiefly by the line boats for some months to come. The Chicago grain fleet are nearly all loaded, and still rates do not advance. The situation may change later on, but there is not enough in the talk of a heavy corn shipment for any relianee to be placed upon it just now.

Wheat in store at the head of Lake Superior is apportioned amount the various terminals elevator lines as follows:

Belt line	1,311,031
Consolidated	5,000,165
Globe	4,354,707
Great Northern	1,336,582
Superior Terminal	1,491,017
Consolidated B	341,683
Consolidated H	96,315
Aggregate	13,931,500
At Minneapolis	19,308,635

APPOINTMENTS FOR NEXT SEASON.

The following appointments of masters and engineers for the season of 1896, have been announced by owners:

STEAMER.	MASTER.	ENGINEER.
Amaranth	Stoddard, Louis	
Arundel	Stover, John	McCartier, C. H.
Centurion	Hutchinson, David	Blauvelt, Chas.
Cole, Darius	Comer, W. E.	Dubois, W.
City of Toledo	King, George	Curtis, George
Nicollet	Clary, D. C.	
Desmond	Hunt, Tip	
Eurydice (Br.)	Jackson, Joseph	Munro, George
Fay, J. S.	Young, Lewis	Simpson, Robt.
F. & P. M., No. 1	Thompson, Chas.	Depuy, George
F. & P. M., No. 2	Nolan, John	M'Laren, Finley
F. & P. M., No. 3	Russell, Joseph	M'Laren, Robt.
F. & P. M., No. 5	Doyle, John	Nolan, Henry
Harper, John	Mills, H. L.	Reilly, Edward
Hayward, A. D.	Tormey, Edward	Greeves, D. M.
Helena	Leisk, Joseph	Pratt, Scott
Idlewild	Lockridge, J.	Medear, R.
Johnson, H. J.	Miner, Charles	Seymour, John
Kaliyuga	Robinson, A. R.	Blaine, Thomas
Ketcham, John B.	Christie, Martin	
La Salle	Ames, William	Tilton, Warren
Neosho	Wright, W. A.	Chapman, D. W.
Nyanza	Duerker, Henry	Wellington, ——
Pawnee	Davis, Ezra	Depuy, Harvey
Shores, E. A.	Olson, L.	Bridges, W.
Sicken, M.	Kuhn, John	Sicken, Wm.
Servia	Ahlstrom, ——	Buchanan, R. B.
Syracuse	Fisher, John	Mark, J. W.
Santa Maria	Rathbone, Eugene	Burns, Charles
Tilley, Sir S. L. (Br.)	Irving, John	Dawson, J. S.
Veronica	Soleau, O. J.	Reardon, W. J.
Weed, E. P.	McDonald, D. S.	Millikin, W. J.

SCHOONER.	MASTER.
Albany	Scott, A. B.
Amboy	Williams, W. R.
Brake, Wm.	Kerker, Frederick
Butman, M.	Lavoe, Oliver
Brightie	Lennon, F. H.
Campbell, R.	Hanson, Peter
Cobb, Ahira	Gifford, Nelson
Colwell, J. L.	Van Slyke, R.
Gawn, Thomas	Lawrence, J.
Helvetia	Murphy, Cornelius
Judd, E. T.	Jex, H N.
Johnson, G. W.	Munroe, Albert
Knapp, F. M.	Powell, J.
McVea, E. J.	Chaltrand, Joseph
Martin, John	Gould, Samuel W.
Melvina	Larson, Henry
Merritt, T. R. (Br.)	Freeman, R.
Ogarita	Brogan, M. J.
O'Neil, John	Leon, George
Sands, Isabella	Johnson, August
Spademan, C.	Gullett, Charles
Sprague, H. C.	Clifford, Alex.
St. Joseph	Fertan, Charles
St. Louis (Br.)	Griffin, John
Teutonia	Meldrum, Wm. G.

Readers will greatly oblige us by calling our attention to errors or filling in any omitted name.

The old schooner Reliable, owned by Capt. Thomas Davis, and sailed by him for the past 15 years, is to be turned into a steambarge. Her stern is being built to accommodate the placing of screw and shaft, her mainmast will be removed, and by May 15 she will come out as a steamer at a cost of about $3,500.

SHIP BUILDING AND REPAIRS.

NEW TONNAGE FOR '97.

In addition to the order already placed with the Chicago Ship Building Co. for a steamship for the new fleet of 1897, and the contract for the oil carrier recently awarded by the Standard, parties already prominen. in shipping circles are asking for bids from the leading builders on two large vessels for next year's delivery. The bidding will be pretty brisk, and although an advance of $2 per ton in the price of ship and boiler plates was announced Monday, this would have no appreciable effect on the situation, as the increased cost for a large steamer would range between $3,000 and $4,000. Indications are that while next year is not going to show such a rush of work as this there, will still be great activity in the yards and engine shops.

The Chicago & Northwestern people have decided to build nintey miles of new road into the timber section of Wisconsin, and to establish a line of car ferry steamers across the Michigan, with Manitowoc as their easteru terminal. It is hoped to have the boat line in operation by next season, and the contracts for the boats will probably be let within a few months.

President Colgate Hoyt, of the American Steel Barge Co., was in Superior the latter part of last week. He stated in an interview that his company was figuring upon the construction of two more whalebacks, and that it is not unlikely that the company will add another's basin to its dry-dock plant soon.

The tug Edna G., building at the Cleveland shipyard for the Duluth & Iron Range Railroad Co., was launched very successfully at 3 o'clock last Saturday afternoon the christening ceremony being performed by Miss Grace, daughter of Mr. A. C. Saunders. The Edna G. is admitted by all to be the finest tug on the lakes, her model and fittings making her really more of a yacht than a tug. While of large size and furnished with great power, she will be very suitable for the harbor towing for which she is intended at Two Harbors. She has a bar keel and will draw considerable water, but will be all the more seaworthy on this account. She is 100 feet over all by 23 feet beam and 13 feet depth. Her engines are fore-and-aft compound, with cylinders 18 and 40 inches in diameter by 30 inches stroke. They are of a type entirely new on the lakes, really providing for treble expansion of the steam. She will have a main saloon finished in white mahogany, and the other apartments ih quarter-sawed oak. The pilot house and engine will be built after the style of sea-going tugs. Mr. Robert Logan superintended her construction.

The new barge which Alex. Anderson, of Marine City, is building for Connelly Bros., of Buffalo, will be launched either next Saturday or the following Tuesday. Her name is to be that of the firm, "Connelly Bros." and she will tow behind the steamer Wotan. She is 210 feet long over all, with 200 feet keel, 36 feet beam, and 12 feet depth of hold.

The Union Dry-Dock Co. is working as large a force of men as it can handle. The Conners yacht, nearly finished, occupies a position alongside one dock, and the Union liner, nearly in frame, the other. The two excursion steamers will not need any yard room, as they are for Chautauqua and Hemlock lakes' and will go to destination in sections, while the steel oil tank will not be built this year.

The hull of George D. Nau's new tug which Andrew Johnson is building at Green Bay will be ready to launch next month. She measured 94x20x12 feet. Her engine is being built by Sutton Bros., of Buffalo, and her boiler by Johnston Bros., Ferrysburg, Mich.

The car ferry barge in process of construction at Peshtigo for the Lake Michigan Car Transportation Co., for use between Chicage River and the Calumet, will be finished in about two weeks.

Capt. Adolph Frietsch of Milwaukee, is making fair progress with his boat, the Schlitz Globe with which he expects to satl around the world. The bottom, which is already completed, is constructed of white oak plank two and a half inches in thickness and fastened with 300 carriage bolts half an inch in diameter. "I have agreed," says Capt. Frietsch, "to construct the hull with my own hands, all but the painting and finishing, and the report that the Schlitz Brewing Company has engaged carpenters to help me is entirely wrong. The Schlitz Globe will undoubtedly be the strongest boat of her size ever constructed. I will have her ready for the painters by the latter part of May."

GENERAL REPAIR WORK.

CLEVELAND.—The Hesper got out of the Cleveland dry-doek this week, and the Edward S. Pease was in to renew her steel arches. The Rival is in getting some bottom repairs. The J. C. Lockwood is still in the Ship Owners' dock. The Grace Holland is also in dock there for some new steel planking.

The repair work on the May Richards and Nellie Reddington and Escanaba is about finished. The Genoa has been getting some new spars and has had her hatch coamings and deck repaired.

DETROIT.—The lengthening and rebuilding of the Fayette Brown at the Clark Dry-dock is about finished. Her carrying capacity is increased about 500 tons, but the width of hatchways is somewhat reduced because of a heavy steel stringer on each side the steamer, six feet wide. The Lansing is in the Detroit dry-dock for a new stern post. The ferry steamer Fortune has found a damaged plate 9 feet below the water line, evidently done when releasing the Shenango No 2 on Lake Erie. The steamyacht Cynthia is getting a new Deering boiler to cost $2,500. The steamyacht Azalea is being remodeled in side at an expense of $3,000. The steamyacht Pastime has been at the Detroit Boat Works, getting $3,000 worth of repairs, including work on boiler, new fender, strakes, bulwarks and mahogany rail with locust stanchions. The steamer George J. Farwell has been rebuilt into a double-deck boat at Marine City, and has come here for new boilers. The State of Michigan will be sent to dock for a general over-hauling before being placed in the Mackinaw route. The Cherokee will come here from Marine City for a new shaft.

STURGEON BAY.—The new port bow in the schooner H. C. Winslow has been completed. She is now receiving new covering-board and deck-beams, and her center-board box is being rebuilt. The barge Harry Johnson has received a new deck, and the schooner Mary Collins a new timberhead on the port quarter.

PORT HURON.—The White Star is in the Wolverine dry-dock for some bottom planking and calking. The barge Montgomery comes out of Dunford & Alverson's dock Tuesday, and the Tempest goes in for a new stern pipe. The schooners Cateract and Jupiter will go into the Wolverine dock this week for a general overhauling.

BUFFALO.—The following is a resume of the winter repair work here. The work, or most of it, has already been covered correctly in the RECORD: Arabia, new deck and rail entire, besides other new work; Henry Chisholm, new stern; Conemaugh, stem and other repairs; Cumberland, stanchions, covering-board, rail, etc.; J. F. Eddy, new upperworks aft; W. H. Gratwick (wood) new boilers; S. C. Hall, extensive general repairs; H. J. Jewett, steel deck; Juniata, extensive repairs to hull; Katahdin, large outlay in strengthening and stopping leak; Livingstone, repairs of collision damage to stern; Lycoming, new engine; M. Maytham, J. W. Moore, John Oades, A. Orr and Pathfinder, extensive repairs to bottom; R. P. Ranney, extensive repairs in hold and above deck; Roumania, rail, stanchions, etc.; Queen of the West, engine from the lost Calumet; Rube Richards, boiler from the lost Newburg; Russia, entire new bows to make good collision damage; Viking, extensive general work; Washburn, bottom plates and repair of collision damage; A. Weston, stem, planking, etc; B. Whitaker, pole spars and general repairs; G. F. Williams, extensive repairs aft to make good collision damage; Wissahickon, new decks; barge Adriatic, housed in forward and other new upper work; Aurania, new pilot house, etc.; T. L. Parker, entire rebuild, including pole spars; Wenona, general rebuild. Of the eight whaleback barges of the steel company wintering here several have been in dock for bottom repairs.

NOTES.

The steamer Inter-Ocean has received $8,000 in repairs at Ashtabula during the past winter About $1,200 was spent on her consort, the Winslow.

The new fueling scow which J. G. Laird & Sons, and Albert Swedenburg of Ashtabula, are building for M. A. Hanna & Co. She will be self-propelling, and her engine will operate the powerful crane necessary to handle her buckets, which will contain nearly a car load of coal each.

The steambarge A. Y. Gowen received a thorough rebuild at Sandusky during the winter, and is already in commission.

THE RIVER AND HARBOR BILL.

(CONTINUED FROM PAGE 4.)

ments on this lake are: Sturgeon Bay Canal, $30,000, and for improvement of harbor of refuge, maintenance of channel and pier, $5,000; Menominee, $7,150; Green Bay, $25,000, Kenosha, $24,000; Kewaunee $25,000; Manitowoc, $24,500; Racine, $27,000; Sheboygan, $26,000; Charlevoix, $20,000; Frankfort, $15,000; Grand Haven, $20,000; Manistee, $12,000; Muskegon, $30,000; Benton Harbor Canal (St. Joseph), $30,000; South Haven, $15,000; Ludington, $20,000; Saugatuck, $10,000; Ahnapee, $5,000; Holland, $8,000; Pentwater, $5,000; White Lake, $5,000; Petoskey, $8,000; Port Washington, $5,500; Two Rivers, $5,000; Pensaukee, $1,000; Oconto, $4,000.

On Lake Superior a continuous contract is provided for Duluth and Superior harbor, involving an expenditure of $3,080,553. For continuing work $50,000 is provided immediately, $30,000 for the Duluth and $20,000 for the Superior sections. Other appropriations on this lake are: Two Harbors, $30,000; Ashland, $27,000; Ontonagon, $10,000; Portage Lake harbor, $25,000; Portage Lake Canal, $50,000; Marquette, $24,000; Point Marquette Bay (Presque Isle Point Bay), $20,000; Grand Marais harbor of refuge, $24,000.

A contract is authorized to involve $1,065.000 for improving the water communication across Kewenaw Point in addition to the $50,000 elsewhere mentioned for Portage Lake Canal.

On Lake Huron $16,000 is appropriated for Sand Beach harbor of refuge; Cheboygan gets $12,000, and Alpena, $2,500.

On Lake Ontario, Oswego is allowed $60,000; Ogdensburg, $20,000; Charlotte, $12,000; Cape Vincent, $25,000, Great Sodus Bay, $8,000; Little Sodus Bay, $8,000; Cassarie Bay (?) $10,000.

In addition there is provided $25,000 for removing the shoal between Sister Island and Cross-Over light. Provision is made for the survey of Oswego River, Oneida Lake and Mohawk River, so as to connect them. Alexandria Bay and Black River at Dexter are also to be surveyed.

In addition to these the following sums were provided for the improvement of rivers in the lake region: Detroit River, removing shoals, $30,000; Rouge River, $5,000; Black River (Port Huron), $4,000; mouth of Black River, $4,000; Sebewaing River, Michigan, $5,000; Clinton River, $10,000; St. Joseph River, $500; Pine River, $5,000; Grand River, $5,000; Kalamazoo River, $5,000; Fox River, $37,500; St. Croix River, $10,000.

Saginaw River gets $56,000, of which $16,000 is to be used above Bay City. A survey is directed with a view to securing a channel 200 feet wide and 14 feet deep from the head of Saginaw river to Third street, Bay City, and 16 feet deep thence to Saginaw Bay; also to submit plans and estimates for improving the west channel between the middle ground and West Bay City, dredging to 14 feet; also to dredge the Shiawassee River from Saginaw River to Bad River to the viilage of St. Charles and Flint River from the Shiawassee as far as practicable.

For improving Menominee River $15,000 was appropriated, to widen the main channel to 250 feet for 600 feet down the river, from the present west line of the channel to be 16 feet deep, and to extend the present main channel from its west line up the river 425 feet to the west line of Wells street, to be 16 feet deep.

The total appropriation carried in the bill is $9,767,630. The estimates of General Craighill; Chief of Engineers, were about $12,000,000. In addition to the cash appropriations, which will be available July 1, contracts are authorized in the bill for amounts aggregating $51,000,000. The last river and harbor bill carried with it $11,478,180.

The steambarge Dominion was sold at Owen Sound on Thursday, subject to the approval of the judge of the Admiralty Court, Toronto, at auction, by Capt. Boyd, marshal of the admiralty of Toronto district, to Mr. Alex. Fraser, Toronto, for $1,200. This ship has been sailed for the last three seasons by Capt. Sidley, of Belleville, and was sold under an execution issued by him for a claim of wages. She is valued at $3,500. Some four years since she was purchased for $6,000, which amount was realized up to the close of navigation last season by her carrying freight.

LUMBERING IN CANADA.

The annual report of the Department of the Interior of the Dominion of Canada gives some interesting facts as to the timber and lumber industry of that country. The revenue from timber and grazing lands was shown to be $73,620.28, as compared with $90,584.46 for the corresponding time in 1894.

The timber dues received amounted to $58,360.94, being a decrease of $7,357.14 as compared with the previous year. Of the revenue derived from timber, $16,642.34 was for bonuses, ground rents, royalties and dues on timber from lands in the railway belt in the province of British Columbia, being a decrease of $3 186.68. The total revenue received from timber in Manitoba and the Northwest territories up to Oct. 31, 1895, was $1,080,-047.10, and the total revenue from timber within the railway belt in British Columbia up to the same date was $267,541.55.

During the first ten months of 1895, 30,910,491 feet of lumber were manufactured from timber cut under license in Manitoba, the Northwest territories, and within the railway belt in the province of British Columbia. In the Winnipeg agency, which comprises Manitoba and portions of Assiniboia and Saskatchewan, the following quantities of lumber were sold:

	Feet.
Canadian pine from Lake of the Woods	34,000,000
Canodian pine from Fort William	6,000,000
Canadian spruce manufactured in Manitoba	12,559,083
United States pine	6,776 518
British Columbia products (approximately)	10,000,000

TRADE AND INDUSTRIAL NOTES.

The new steamer W. D. Rees is equipped with the Ellington-Parker electric light system.

C. A. Judson, superintendent of the Sandusky waterworks, asks for proposals until May 1 for remodeling a 3,000,000-gallon pumping engine.

The county commissioners of Mahoning county, Ohio, have petitioned the legislature for permission to build two iron bridges over the Mahoning river at Youngstown. Estimated cost, $200,000.

The address of Edward A. Bunker, sole agent for the United States and Canada for the Wilford matchless waterproof cloth, will be Nos. 27 and 29 William street, New York, on and after May 1, 1896.

Sealed proposals are invited until April 15 for furnishing the boilers, machinery, etc., for 12 complete steam fog signals, in sets of two, and for six boilers and engines, with fittings, to be delivered at the lighthouse depot, Detroit. Major M. B. Adams will furnish drawings and specifications.

A novelty in the way of boring out the cylinders of steam craft was introduced at the Vulcan foundry Monday. Heretofore the work of boring out a cylinder has occupied several days by hand work, but yesterday at the Vulcan foundry the cylinder of the steamer S. C. Reynolds was bored out in seven hours by electricity. The motor was put aboard the Reynolds to do the work. —Toledo Blade.

The fitting of spiral bafflers in the tubes of Scotch boilers, and the employment of Serve (or internal-ribbed) tubes, have been attended with a gain in economy. After the furnace flame has been quenched by contact with cold heating surfaces and by radiation, the furnace gases, although still very hot, can no longer radiate their heat, but must give it up by actual contact with surfaces. So the more surface there is provided, and the better it is disposed to meet the flow of gases, the better the economy. The tubes of water-tube boilers are usually so arranged as to give a good baffling effect, and, in addition, sheet iron or tile bafflers are fitted. Persons in charge of such boilers ought to carefully study the baffling question, and should experiment occasionally in the hope of obtaining maximum results.—T. W. Kincaid, in American Machinist.

At a meeting of the shareholders of the Brockville & New York Bridge Co., which holds the charter from the Dominion government for the erection of an international bridge across the St. Lawrence at Brockville, Ont., held March 23, the agreement of amalgamation with the St. Lawrence Railway Co., of New York, which holds the international bridge charter from Congress, was ratified. The capital stock of the two companies in all is $2,600,000, of which $214,000 has been subscribed and $21,400 paid up. Messrs. Charles McDonald, Joseph S. Decker, Wayne Griswold and Clark R. Greggs, of New York; and Charles J. Pussey, Wilmot P. Cole, Daniel W. Downey, G. A. Weatherhold and L. B. Howland, of Brockville, constitute the first board of directors of the new company. Several abutments for the bridge were built last season on the Slater Islands, midway between Brockville and Morristown, N. Y. The amalgamated companies intend pushing the construction of the bridge during the approaching summer on a much larger scale than heretofore attempted.

A NEW GRADE OF PACKING.

After experimenting for some time in order to produce a higher grade of packing than any in existence up to date, and one which should fill all requirements, Jenkins Bros., New York, Boston, Philadelphia, and Chicago, have obtained results of which they are very proud. Our readers are probably aware that Jenkins' Bros. are the originators of unvulcanized joint packing, which has for 25 years been a staple article on the market. They call their new packing "Jenkins '96" and prominent engineers and steam fitters who have given the new packing a trial, report that it has no defects nor shortcomings. The improvement consists in manufacturing a packing suitable for all pressures of steam, that will not rot, burn, blow or squeeze out under any conditions, and, best of all, will last for years in a joint. It is claimed for this article that it will last as long as the metal itself, and can be broken and used again and again. "We are very well aware," say Jenkins Bros. "that this is a very broad statement, nevertheless we stake our reputation upon it." Another valuable property of the packing is that it makes the joint instantly, and does not require to be "followed up" in a joint, considerable time being saved thereby.

Fairplay says: "The steel fleet on the American Lakes is valued at about $17,000,000. The claims on the fleet last season cost underwriters about 6 per cent, against net premiums received of about 2½ per cent, showing very considerable loss on the season's business. A reformed policy is about to be introduced, one of the items of which is that the liability of underwriters under the collision clause will not be for the whole amount of damage, but only for seven-eighths of the same. It is believed in the best informed quarters that on the conditions of the proposed reformed quarters that on the conditions of the proposed reformed policy, and at a premium of 70s. per cent, the business would work out satisfactorily; but I hear that Lloyd's underwriters are taking lines for the forthcoming season at 3¼ per cent on the old policy.

The "Literary Revolution" which accomplished such astonishing results in reduciug the cost of high-class literature a few years ago seems to be coming to the front again. Alden, the leader, like most pioneers, met with some reverses, but is up and at it again, recently sending out a flood of announcements that must exceedingly please book lovers. One of his glad surprises is an excellent and handsome edition of Holmes' "Autocrat of the Breakfast Table," reduced in price from $2 to 35 cents, though hardly at all inferior to the high priced edition in quality. The "Autocrat" is famous as one of the wittiest and wisest of books written by an American author, and every intelligent American wants to read it. You can get particulars free by addressing John B. Alden, Publisher, New York.

The passenger department of the Lake Shore & Michigan Southern Railroad has just issued two very handsome booklets, a copy of which Gen. Pass. Agent. A. J. Smith, will send to any address on receipt of 2c stamp. One is devoted to a description of Lake Chautauqua and its surrounding towns and pleasure and health resorts. It is an excellent work for one to read before paying a visit to this famous spot, and its illustrations are all new and convey an excellent idea of what one may expect to find there.

The other little book describes at length the attraction of Laporte, Ind., and its lakes. This is a comparatively new summer resort, but is fast growing in popularity with Chicago people, from which city it is only fifty miles distant. Lily, Clear, Stone and Pine lakes all present their individual attractions, and the Baptist assembly grounds, yearly becoming better known, are located on the northwest shore of Pine Lake. These grounds contain 100 acres, and are reached from Laporte by hack line or steamboats.

GOOD LIST OF SALES.

The American Ship Windlass Co., Providence, R. I., has furnished us the following memorandum of vessels building on the lakes for which the Providence machines are ordered:

Steamer Queen City building by the Cleveland Ship Building Co., steam capstan windlass, steam capstan aft, and two dock steam capstans amidship.

The Edna G., building by the Cleveland Ship Building Co., for the Duluth and Iron Range R. R. tug boat windlass with iron towing bitts, and steam gypsey.

Steamer building by the Cleveland Ship Building Co. for Pickands, Mather & Co., steam capstan windlass, steam capstan aft, and two dock steam capstans amidship.

Steamer W. D. Rees, building by the Cleveland Ship Building Co., steam capstan windlass, steam capstan aft and dock steam capstan amidship.

Barges Manda, Martha and George E. Hartnell, building by the Chicago Ship Building Co., each a steam capstan windlass, steam capstan aft and steam towing machine.

Steamer George N. Orr, building by the Chicago Ship Building Co., steam capstan windlass and steam capstan aft.

Steamer Maricopa, building by the Chicago Ship Building Co., steam capstan windlass, steam capstan aft, and two dock steam capstans amidship.

Three barges building by the Chicago Ship Building Co., for John D. Rockefeller, each a steam capstan windlass, steam capstan aft, dock steam capstan amidship, and steam towing machine.

Steamer building by the Chicago Ship Building Co., for A. B. Wolvin, of Duluth, a steam capstan windlass, steam capstan aft and two dock steam capstans amidship.

Steamer City of Buffalo, building by the Detroit Dry Dock Co., steam capstan windlass and dock steam capstan aft.

Steamer L. C. Waldo, building by F. W. Wheeler & Co., steam capstan windlass, steam capstan aft and two dock steam capstans amidship.

Steamer City of Bangor, building by F. W. Wheeler & Co., steam capstan windlass, steam capstan aft and dock steam capstan amidship.

Steamer E. W. Oglebay, building by F. W. Wheeler & Co., steam capstan windlass and steam capstan aft.

Steamer Lagonda, building by F. W. Wheeler & Co., steam capstan windlass and steam capstan aft.

Steamer building by F. W. Wheeler & Co., for Pickands, Mather & Co., steam capstan windlass, steam capstan aft and two dock steam capstans amidship.

Two barges building by F. W. Wheeler & Co., for Pickands, Mather & Co., each a steam capstan windlass, steam capstan aft, and steam towing machine.

Steamer Connelly Brothers, building by Alexander Anderson, Marine City, steam capstan windlass and hand capstan.

Barge building for John D. Rockefeller by the American Steel Barge Co., a steam towing machine.

F. W. Gilchrist's barge Norseman, laid up at Detroit, hand capstan windlass.

Steamer building by Abram Smith & Son, Algonac, Mich., a steam capstan windlass.

Barge Melrose, building by the Montreal Transportation Co., Kingston, Ontario, steam capstan windlass.

A 3,000 ton steamer building by the Union Dry Dock Co., steam capstan windlass and steam capstan.

Ferry Steamer building by F. W. Wheeler & Co., for the Flint & Pere Marquette R. R., steam capstan windlass and four steam gypseys.

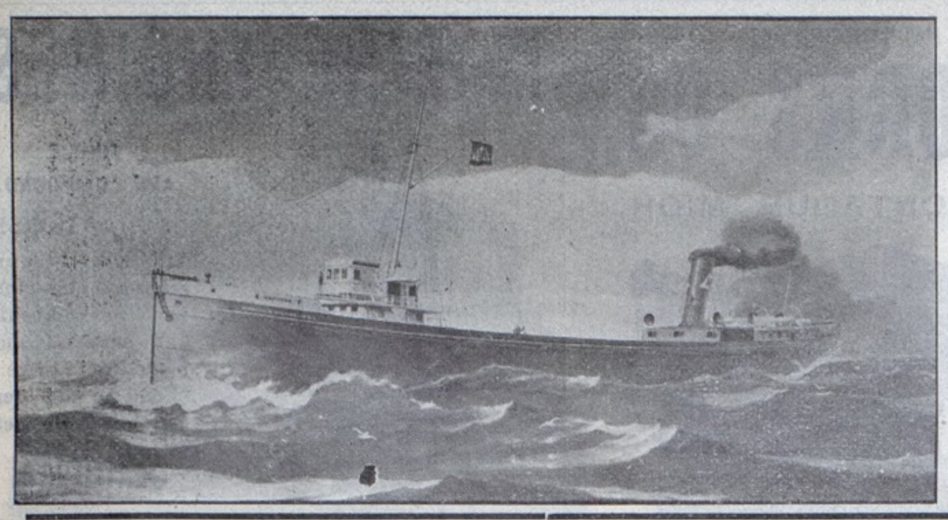
Steamer "Menominee," Goodrich Transportation Co., hand pump brake windlass.

H. G. TROUT, ESQ.: The wheel that you sent me for the tugs "Wm. P. Congden" and "Janie" have given entire satisfaction, both in the increase in speed and pulling power of the boats. The decrease in fuel consumption is considerable, although I do not know the exact percentage. I recommended your wheel to Capts. S. M. Ward and Congden, Hazard & Co., and they are perfectly satisfied with the wheels you have furnished them.—A. A. SPRINGS, Georgetown, S. C.

PROPOSALS.

U. S. ENGINEER OFFICE, 185 Euclid avenue, Cleveland, O., March 28, 1896. Sealed proposals for removing and rebuilding part of east pier at Cleveland Harbor, Ohio, will be received here until 2 o'clock p. m., Standard time, April 25, 1896, and then publicly opened. Information furnished on application. JARED A. SMITH, Lt. Col., Eng'rs.

U. S. ENGINEER OFFICE, Telephone Building, Detroit, Mich., April 4, 1896. Sealed proposals for dredging at several of the harbors on east shore of Lake Michigan, between Charlevoix and Muskegon, Mich., will be received here until 12 o'clock M., Standard time, April 25, 1896, and then publicly opened. Apply here for information. G. J. LYDECKER, Lt. Col. Eng'rs. 15-17



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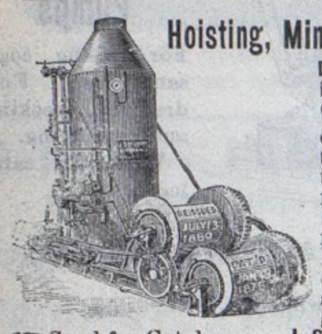

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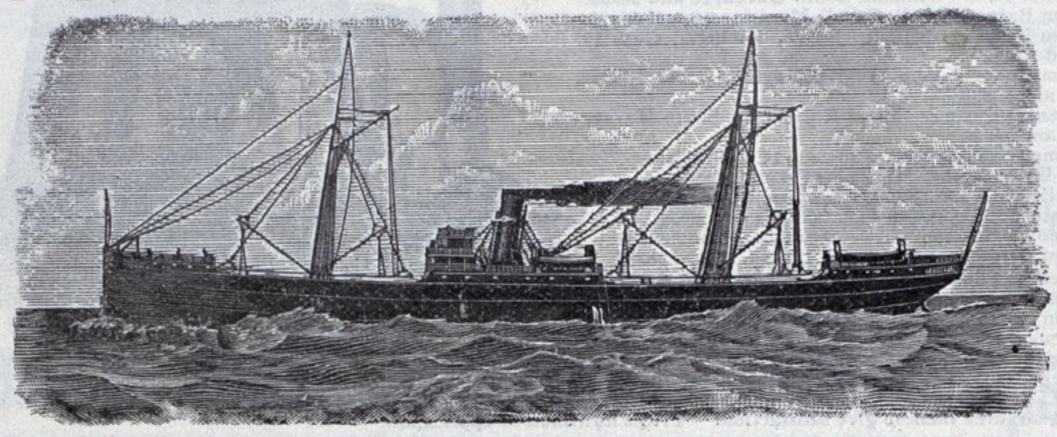

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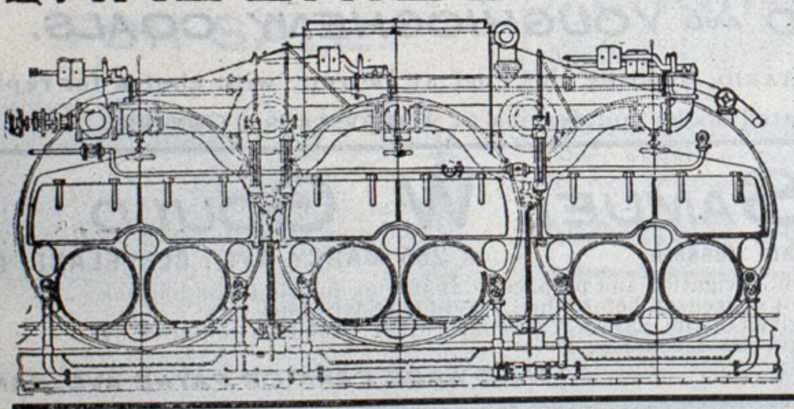

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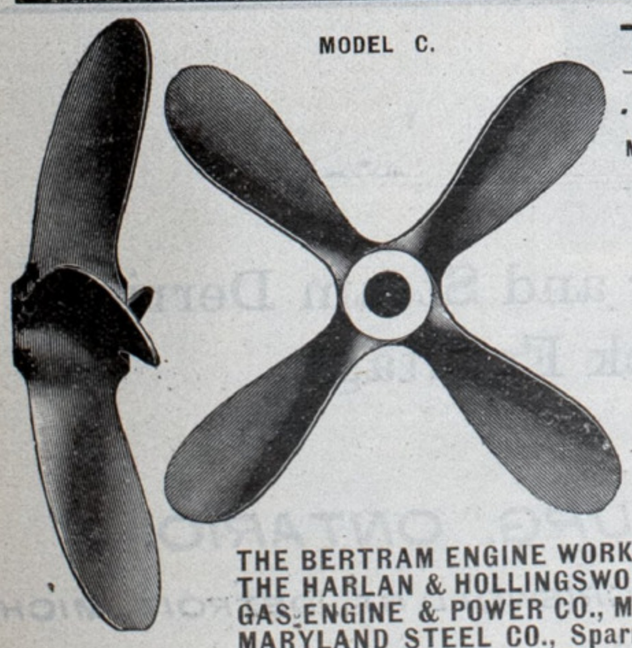

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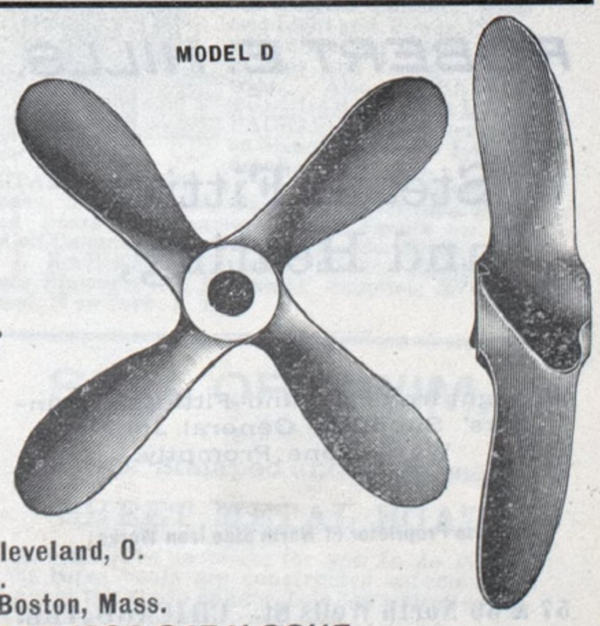

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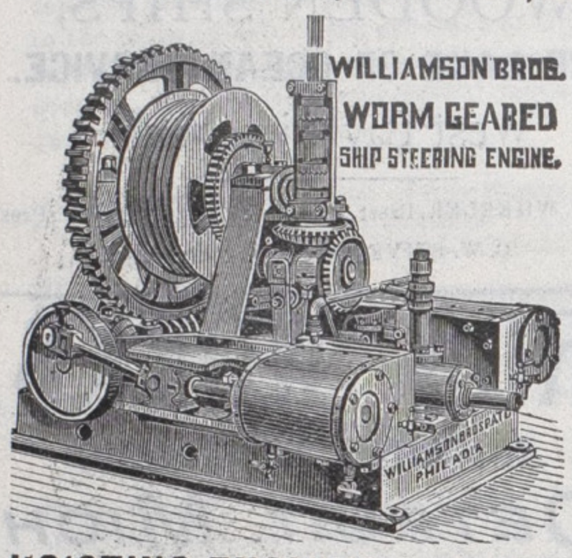

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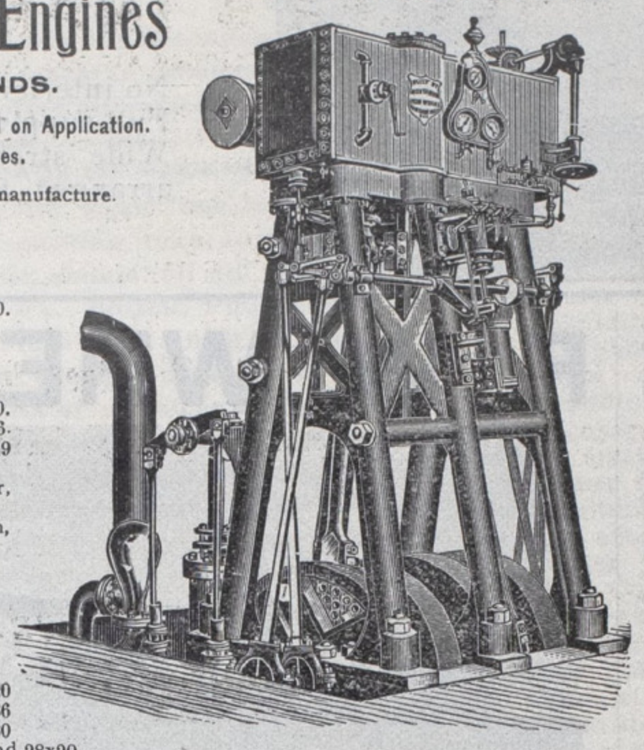

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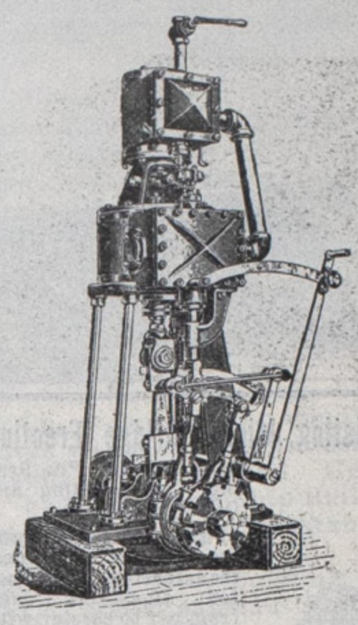

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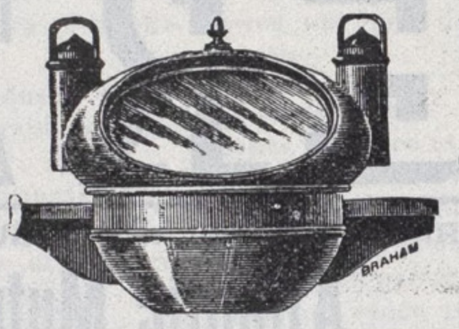

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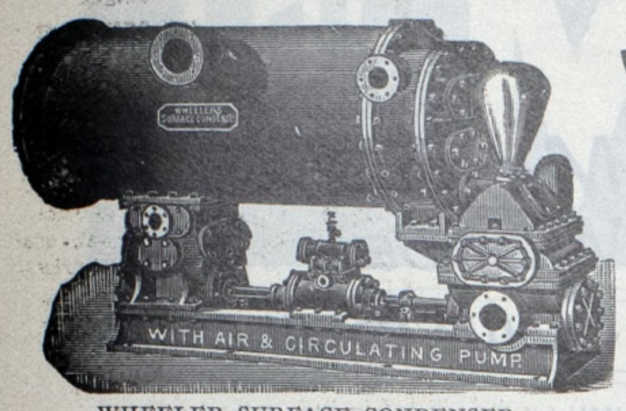

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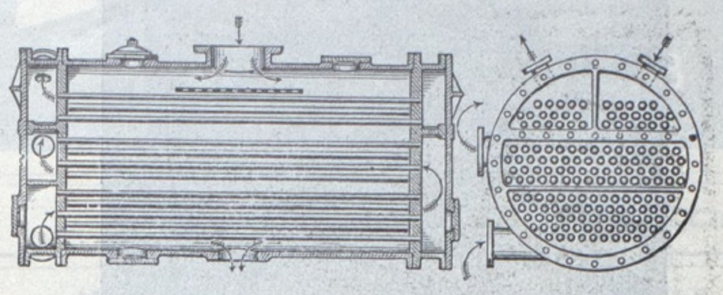

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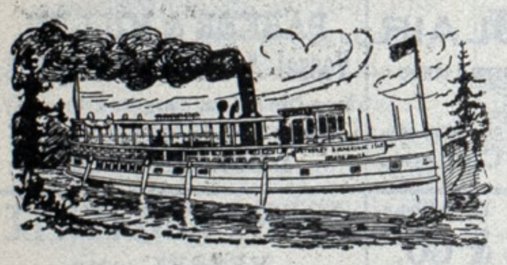

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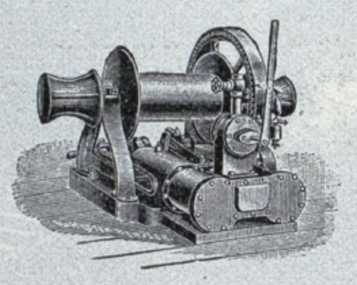

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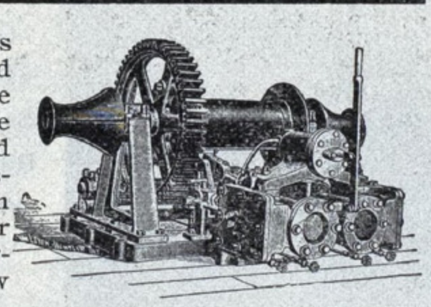

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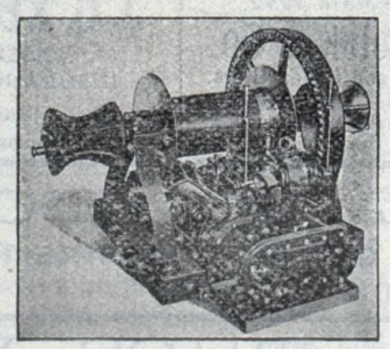

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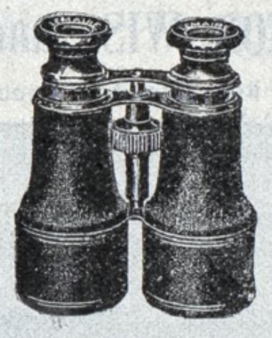

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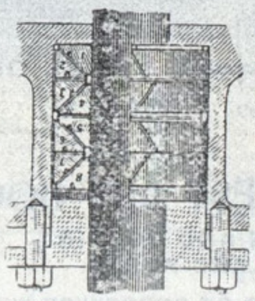

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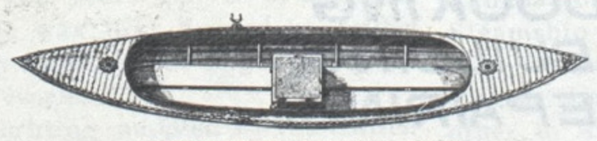

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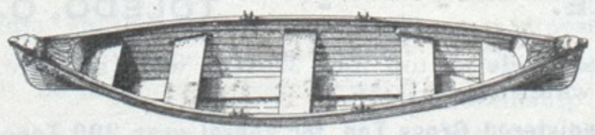

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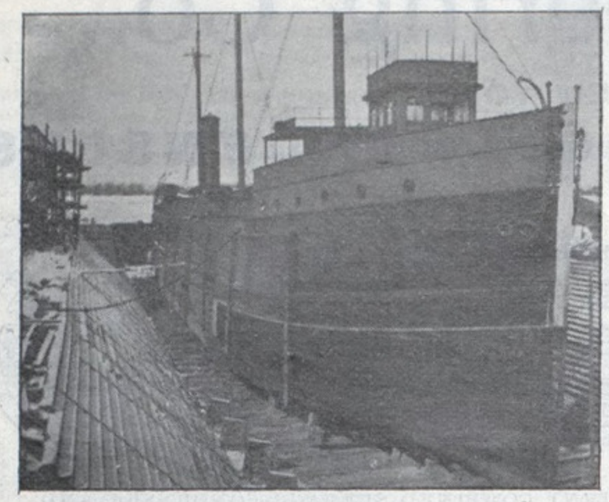

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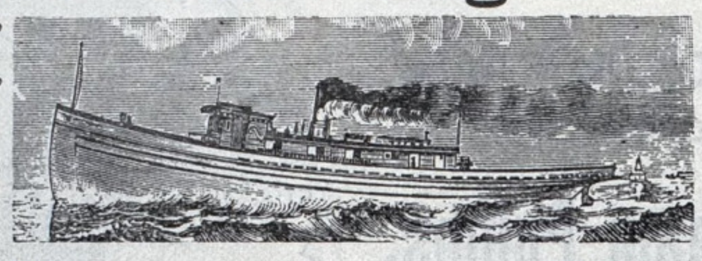

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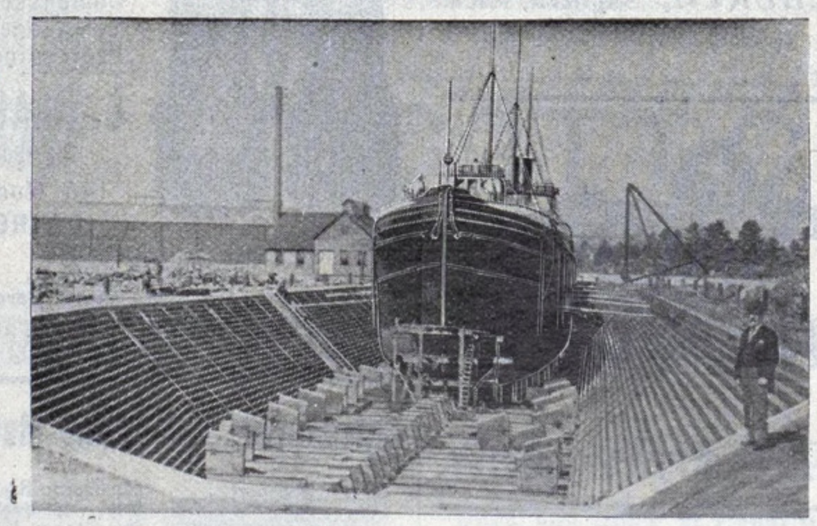

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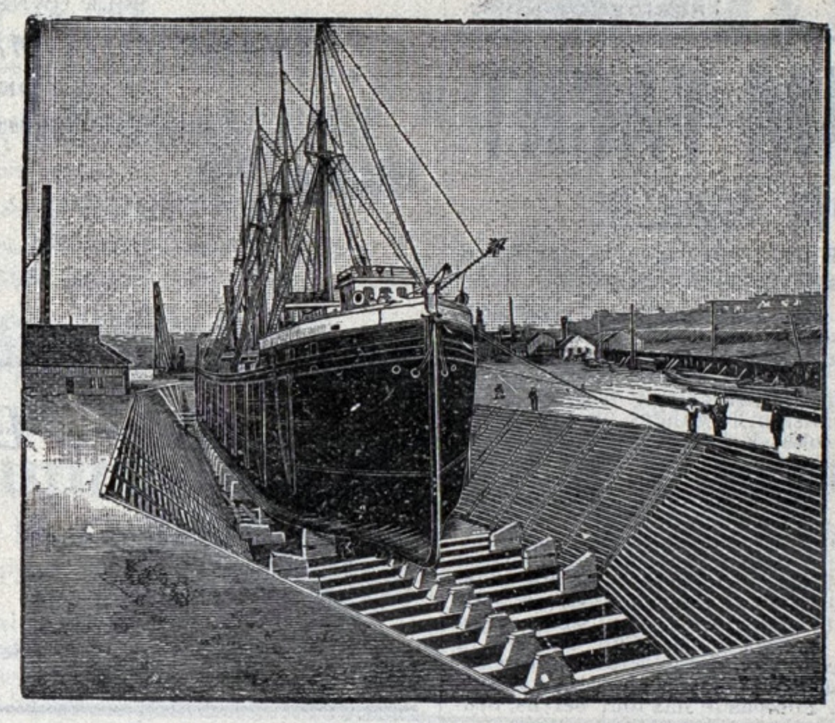

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